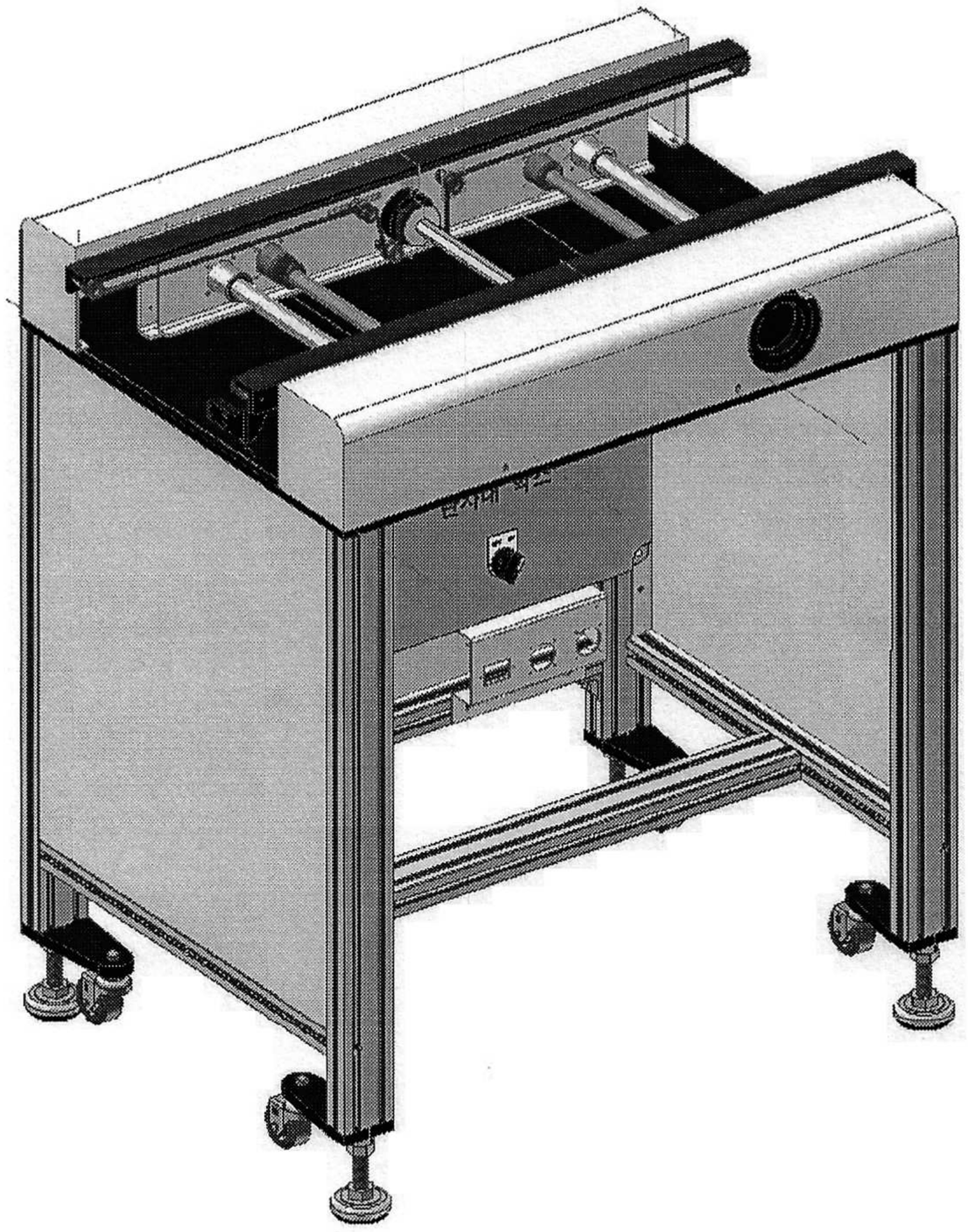
CONNECTING CONVEYOR

MANUAL Ver.1.1 ECC (STANDARD)



JOB NO.	
S/N	

EUNIL **EUNIL CO., LTD.**

Leads the factory automation in the 21 Century.

FOR USER **ISO9001 CE**

Before reading manual

This Manual is produced by EUN IL and applied to EUN IL Magazine only. Any partial or complete copy of this Manual is prohibited without permission.

◈ Warranty

The warranty period is one(1) year except following cases.

◈Non Guaranteed case

1. Change the machine without EUN IL' s permission.
2. Any other party than EUN IL change or repair the Machine.
3. Part with any other specification than EUN IL' s is used.
4. Force Majored.

◈ Message for User

This unit contains general safety measures but unexpected serious accident can be happened due to the operator' s careless. So please read and carefully follow the instructions given throughout this manual for performing specific tasks and working with specific equipment.

NOTE

◈ This unit is not contained the any device for Radio-Interference in Industrial Complex therefore if you operator this unit near to the residential area, it can interrupt the reception condition to the radio or TV. So use this unit only as described in this manual.

◈ Always turn the main switch on the machine to off and secure it against unauthorized switch when performing maintenance and repair work. Failure to do so may result in personal injury, death, or property damage.

◈ This unit is organized with Operating & Pneumatic part with Main power part with high-voltage current. So if the operator controls this unit to the inappropriate way, he can get the fatal damage.

Here the OPERATOR meaning includes the all operators with Programmer.

◈ Keep away the wet-hands when you (dis)connect the main power.

◈ Use the approved outlet with earth and don’ t in-put too much units’ main power to the only one outlet.

- If you use the too much units to only one outlet, it ignite a fire or cause an explosion and electric shock.
- If the power cable got wet or any impurities, make sure to dry and clean.

◈ Do not bend or pull out the main power cable by force.

- It cause and fire or electric shock.

◈ Never operate unit with strange smell or any smoke, just disconnect the main power and contact us immediately.

◈ Allow only Eunil’ s qualified personnel to perform the retrofit or any maintenance task.

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Ⅰ. OPERATING

1.1 Description for each part.

1.2 Operating description.

1.3 Specification

1.4 Description for Operating Panel switches

1.4.1 Description for Operating part.

1.4.2 ON/OFF the main power

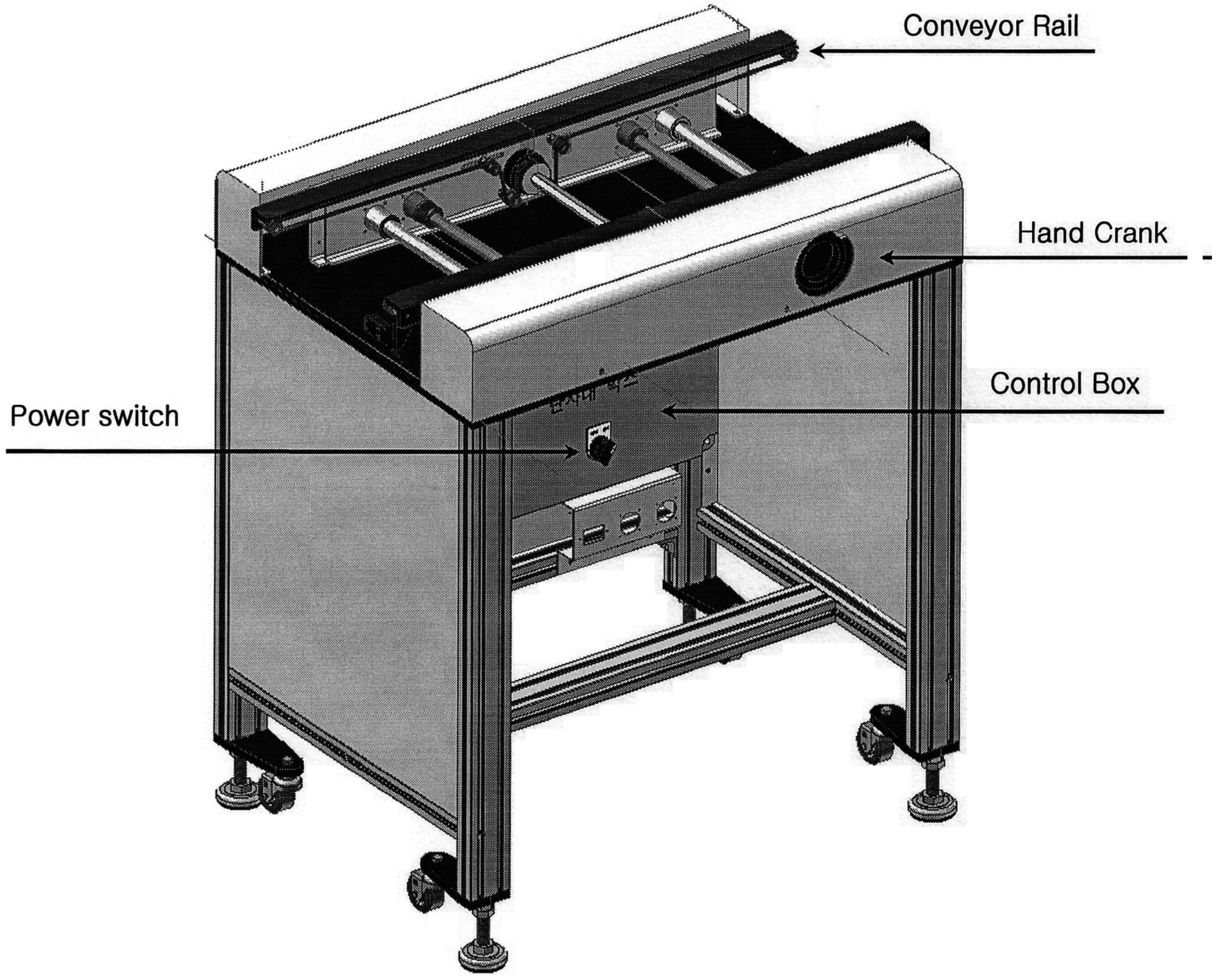
1.5 An arrangement for sensor and motor

1.5.1 An arrangement for sensor.

1.5.2 An arrangement for motor

1.6 Operating Cycle

1.1 Description for each part



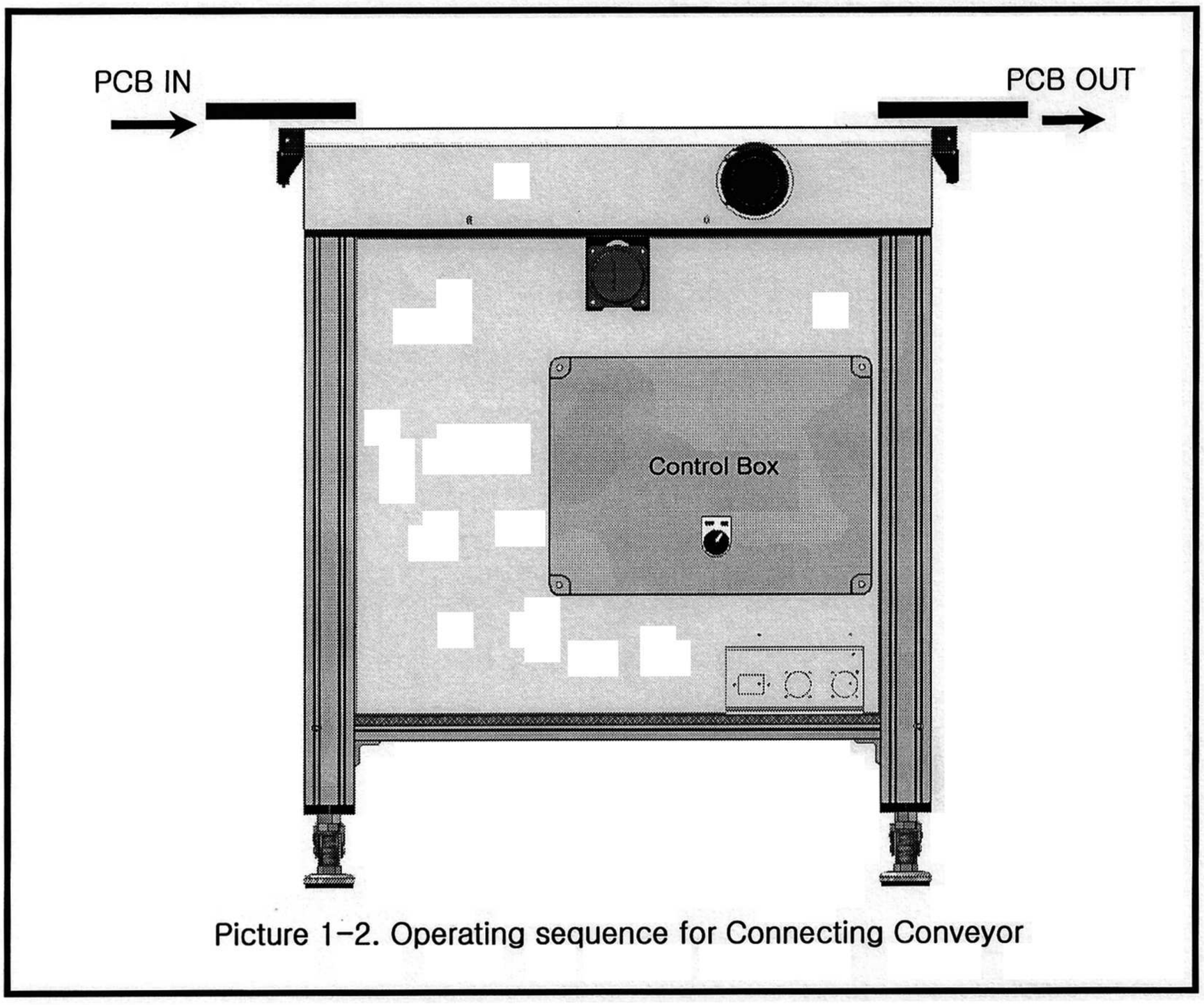
Picture 1-1. CONNECTING CONVEYOR

1.2 Description of Connecting Conveyor

Normally, Connecting Conveyor is designed for connecting with Up-Line and Down-Line. This machine is able to use board inspection on conveyor.

① When the PCB which is transferred from Up-Line machine, is sensed by Sensor 1, the conveyor runs. The PCB is transferred to Sensor 2. When the PCB is sensed by Sensor2. The conveyor stops and standby.

② When there is request signal from down-line machine, PCB is transferred.



Picture 1-2. Operating sequence for Connecting Conveyor

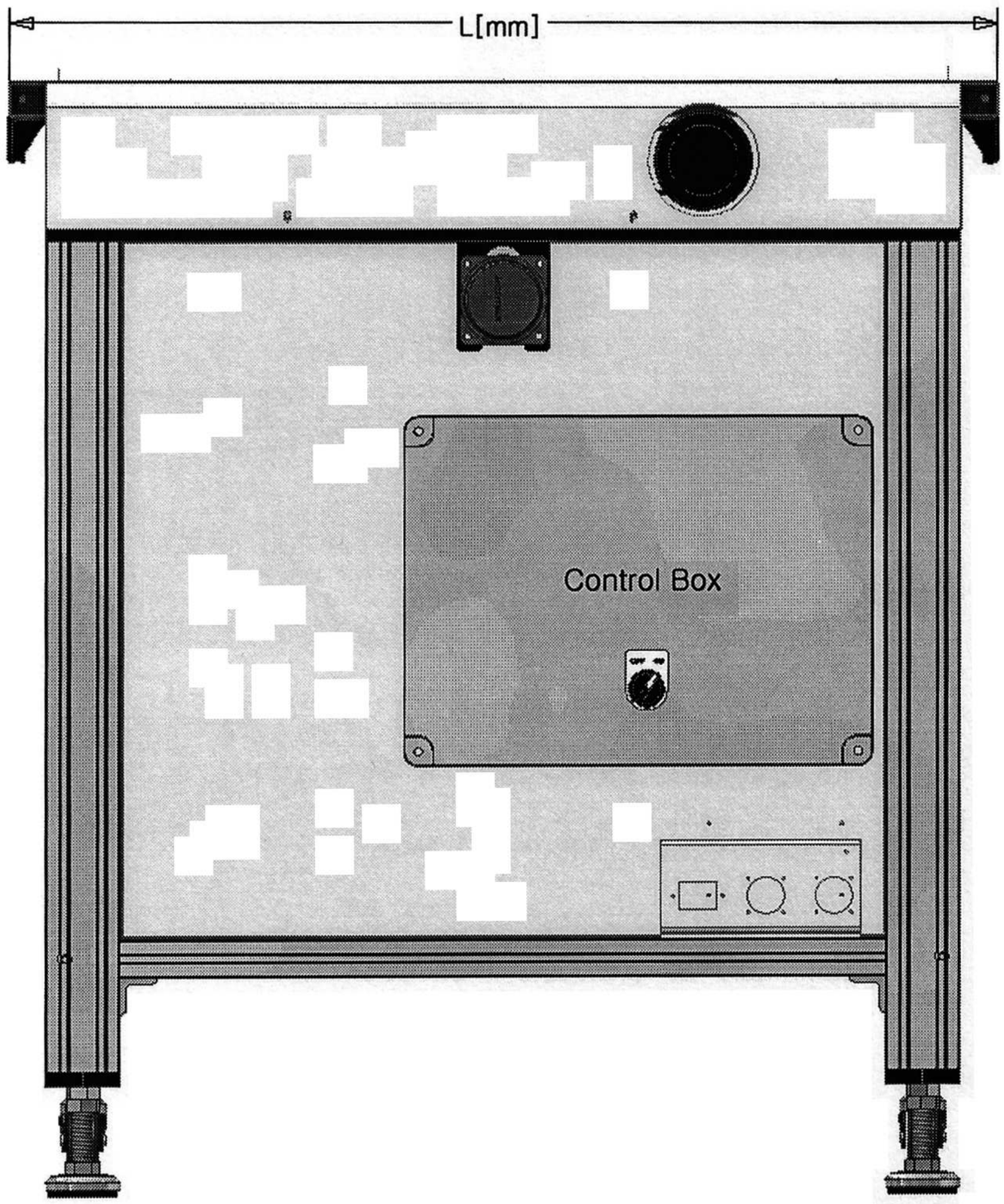
◈ This operating sequence can be changed by customer' s required and this operating sequence is for our standard type unit.

1.3 Specification

ECC-600				
BOARD TYPE	SL	50 x 50 ~ 330 x 250		
	YL	50 x 50 ~ 430 x 350		
	LLX	50 x 50 ~ 530 x 450		
PCB FLOW DIRECTION	STANDARD	LEFT→RIGHT	OPTION	RIGHT→LEFT
FIXED SIDE OF PCB EDGE	STANDARD	FRONT	OPTION	Rear fixed
CONSUMING POWER	MAX. 64W			
POWER SUPPLY	STANDARD	AC220V [±5%], 50-60 Hz		
	OPTION	AC110V [±5%], 50-60 Hz		
CONTROL	PLC (Program Logical Controller) Control			
MACHIE SIZE (L x W x H)	SL	800 x 583 x 1800	XL	800 x 793 x 1800
	YL	800 x 683 x 1800		

MACHINE WEIGHT(KG)	Size / Model	SL (Kg)	YL (Kg)	XL (Kg)
	ECC-600	80	90	100

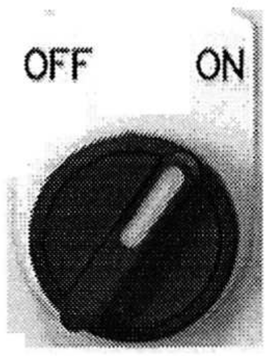
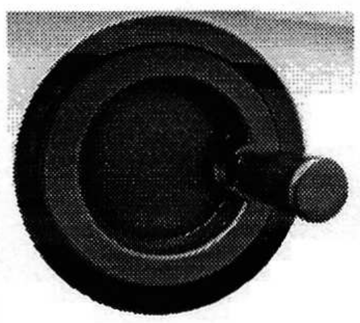
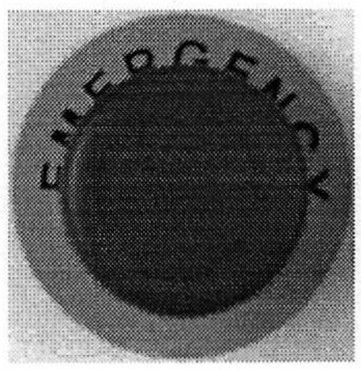
* In case of combined unit, please apply the bigger size unit.



● The Conveyor Rail (L) can be changed by customer’ s required.

1.4 Description for Operating Switches/Manual operating

1.4.1 Description for Operating

SWITCH		DESCRIPTION
1		POWER ON / OFF This switch is for supplying the power to machine. When you turn to " ON" , Power can be supplied. So
2		Hand crank Able to adjust the conveyor width by hand crank -Clockwise: The conveyor width is narrowed. -Counterclockwise: The conveyor width is getting widened ※ This spec. Can be changed by customer' s required.
3		EMERGENCY(OPTION) This switch is lock type and is for cutting off the main power. (Turn this switch to the CW direction when you release the emergency situation.) ※ This spec. Can be changed by customer' s required.

1.4.2 How to Power On/Off

① Connect the main power cable to the unit’ s in-put power cord.

※ Note: - Keep away the wet-hands. This can be caused the electric shock.

- Make sure they will not be damaged by moving equipment or any heavy materials.
- Do not bend them by force.

② Open the Control Box

※ Note: - Check the each parts in the control box and if there are any strange things, remove them.

- Remove the any impurities for prevent the electric shock and leakage.

③ Turn on the this ELB.

④ Turn on Power On /Off switch to the CW direction(ON), And also check the LED light was On in the PLC.

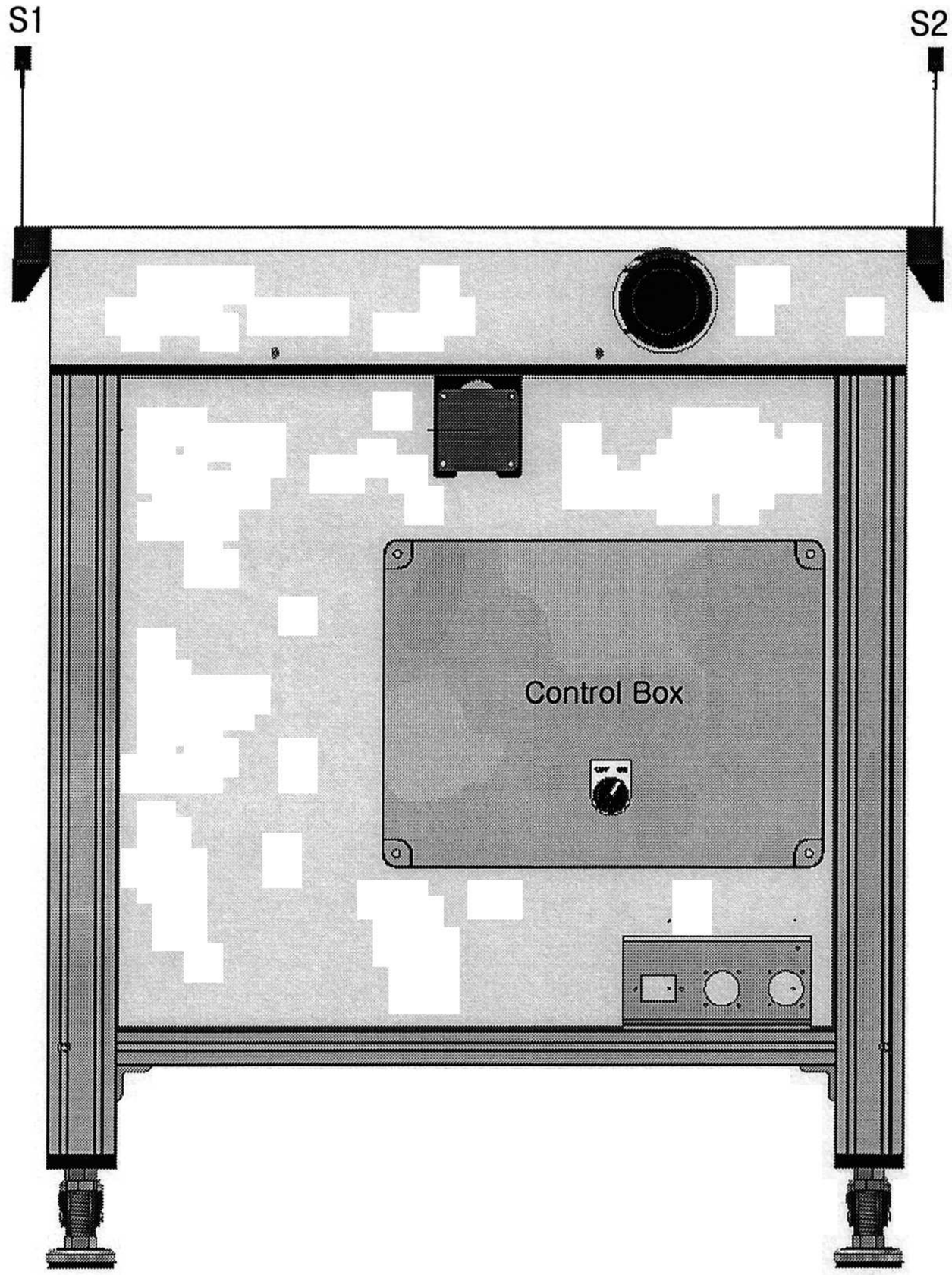
If a few LED were light, the main power was ON without any problem.

⑤ Close the control box door after check the No.2

⑥ Please do opposite way for POWER OFF.

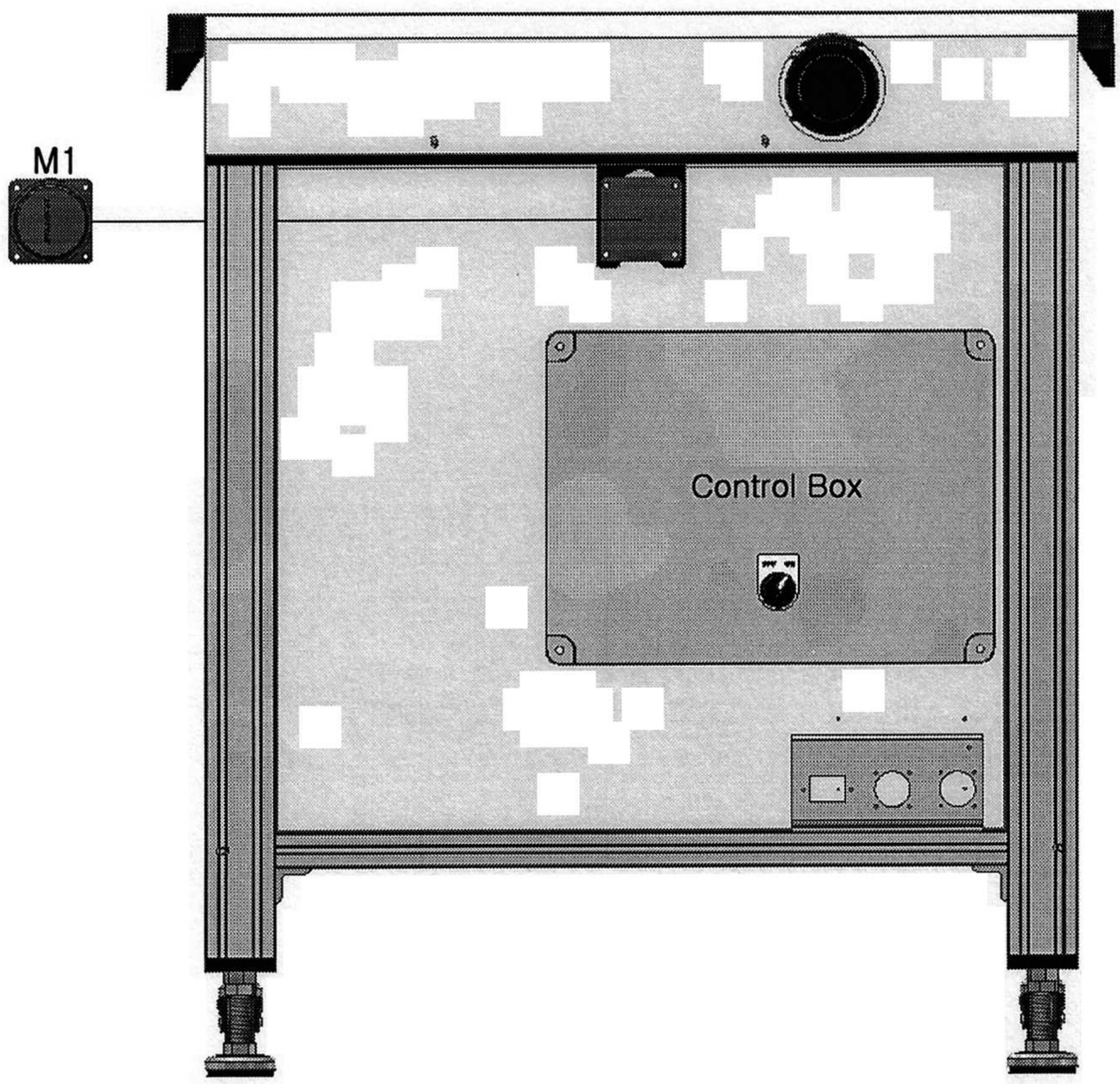
1.5 An arrangement for sensors and motor

1.5.1 An arrangement for sensors



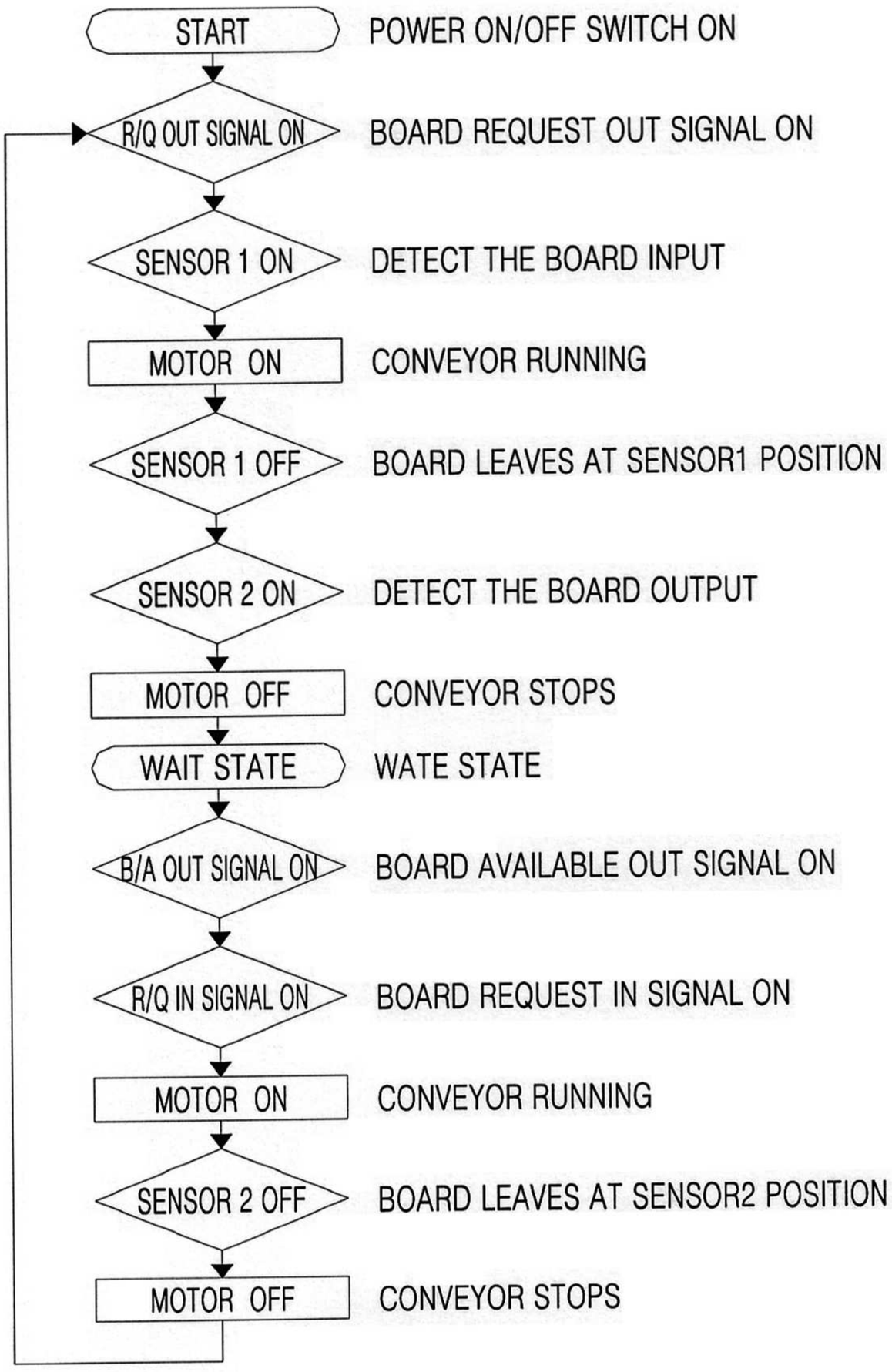
No.	DESCRIPTION	I/O NO
S1	CONVEYOR PCB IN SENSOR	P1:1
S2	CONVEYOR PCB OUT SENSOR	P1:2

1.5.2 An arrangement for motor



No.	DESCRIPTION	I/O NO
M1	CONVEYOR MOTOR	P0:2

1.6 Flow Chart for operating cycle.



II. INSTALLATION

2.1 Items to be confirmed.

2.1.1 Check the each parts

2.1.2 Check the specification.

2.1.3 Invisible checking

2.1.4 Line checking

2.1.5 Manual operating.

2.2 Before Installation

2.2.1 Organized parts

2.2.2 Spare parts

2.2.3 Input voltage

2.2.4 Tools required.

2.3 Installation

2.1 Items to be confirmed.

2.1.1 Check the each parts

① The unit

② Inside of the Box. (Manual, Spare parts (Edge belt, Relay), Power cable, Interface cable)

2.1.2 Check the specification

Check that the unit was built on by your order.

① LINE flow direction: L→R, R→L

② SIZE: SL, YL, LLX

③ Fixed side: FRONT, REAR

④ PASS LINE:

⑤ Voltage: 110/220 VAC

2.1.3 Check naked eye

Check the unit' s outward.

① Check the each parts damage.

② Check the each parts attachment condition. → SENSOR, MOTOR (Refer to the arrangement panel)

2.1.4 Line checking

① Supply voltage → check the line voltage with unit' s Spec. (Voltage)

2.1.5 Manual operating

* Allow only qualified personnel to perform

① Check the unit before In-Put the In-Line condition.

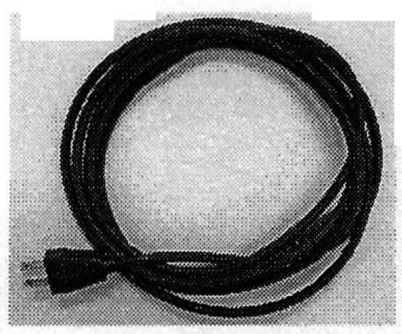
② Connect power to machine and check the operating condition on Off-Line.

2.2 Before Installation

2.2.1 Organized parts

- Power cable, interface cable, Manual.

220V
Power Cable



110V Power Cable
(Option)

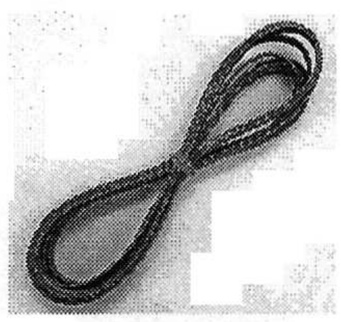
Interface
Cable

Manual

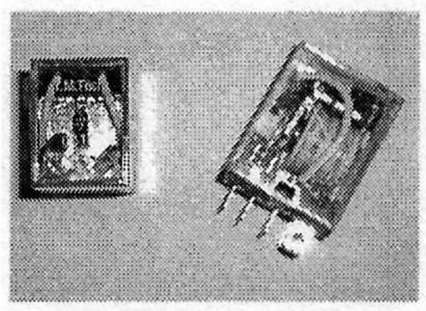
Picture 2-1. Organized parts

2.2.2 Spare parts

- Edge belt, Relay



Edge belt



Relay

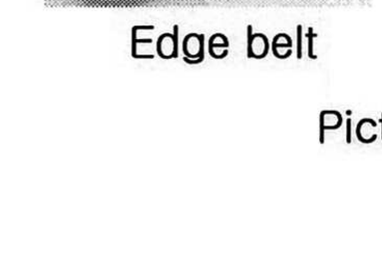
Picture 2-2. Spare parts

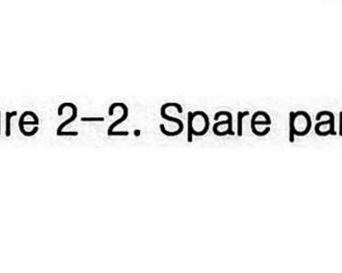
2.2.3 AC Voltage

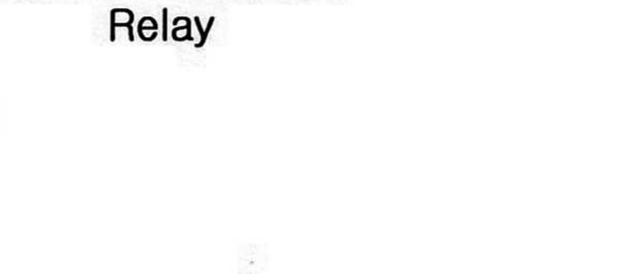
- Proper Voltage (Standard: AC 110V[±5%], 50-60Hz or AC 220V[±5%], 50-60Hz)

2.2.4 Device for installation

- Screw driver Screw, Hexagon wrench set, Spanner, Levels







Picture 2-3 Device for installation

Start the installation when these device prepared.

2.3 Installation

① Place the equipment on the proper spot and down the foot. (Don’ t lock the foot.)

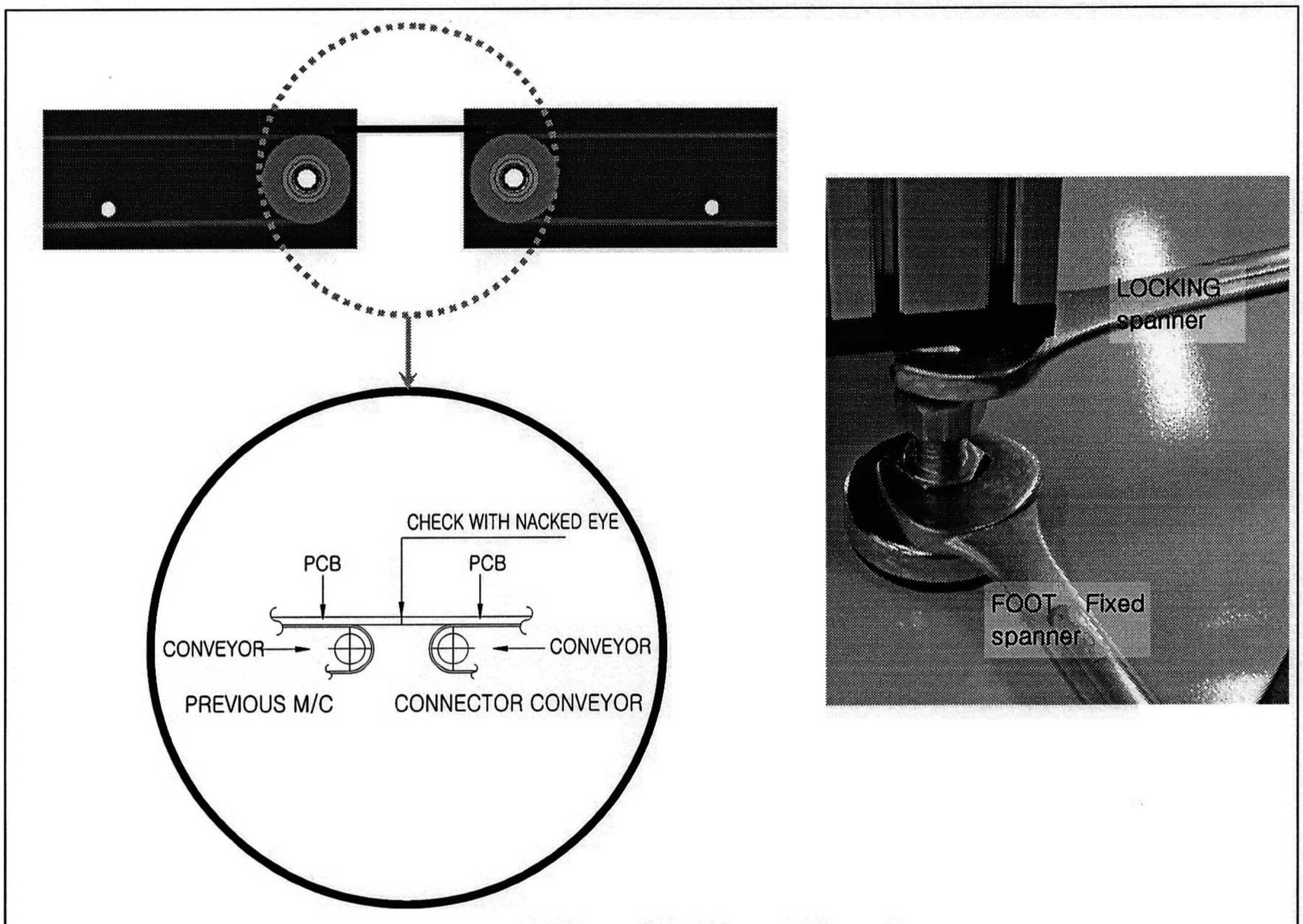
② Check the required voltage(AC 110V or AC 220V) and turn on the master power.

③ Open the Control Box and turn on the ELB switch. (This time, PLC has no electronic power.)

④ Turn on the Power switch on the OPERATING. (This time, electricity is supply to the PLC.)

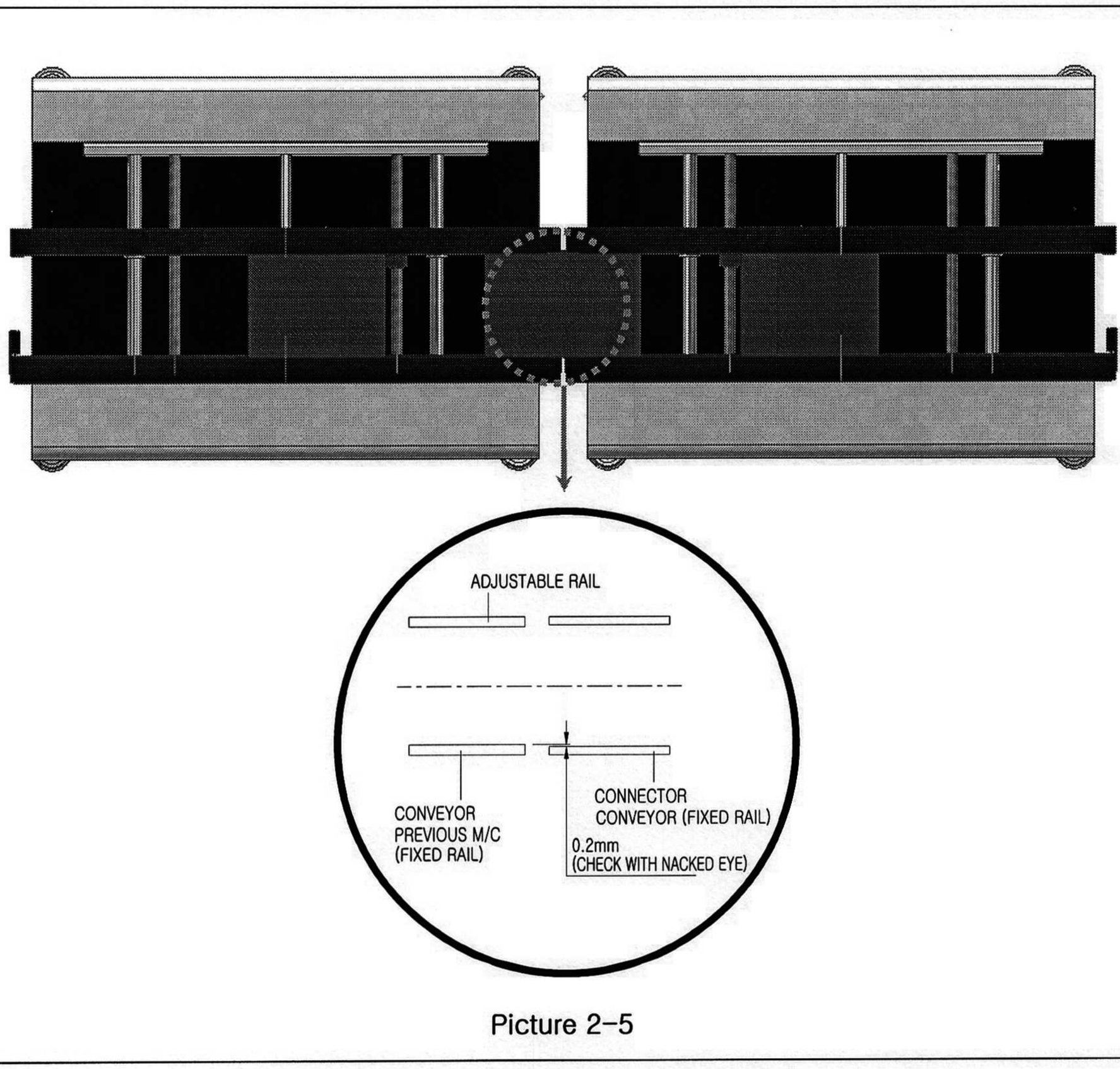
⑤ Adjust the Leveling compare with down-line’ s height. When complete this leveling, lock the nut to the CCW direction.

(Standardize the PCB on conveyor. (Refer to picture 2-4))



Picture 2-4. How to Leveling

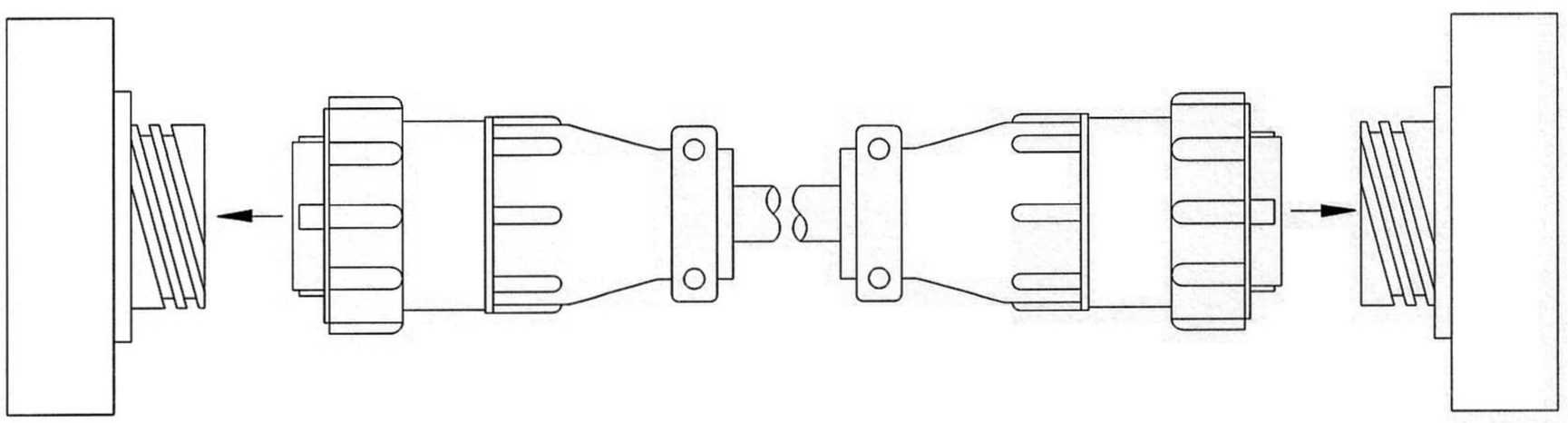
⑥ adjust the machine' s fixed side with Down-line machine as PIC 2-5.



Picture 2-5

※ Note. Check the PCB is bent or not

⑦ Connect the interface cable.



Picture 2-6

* Connect the interface cable. Turn the interface cable until click.

Ⅲ. MAINTENANCE

3.1 Maintenance/ Repairing

3.1.1 Matters That Require Attention

3.1.2 Daily

3.1.3 Weekly

3.1.4 Monthly

3.1.5 Treatment of required A/S

3.2 Trouble Shoot

3.3 REMEDY and require attention

3.3.1 Setting up the Edge Belt’ s Tension and Replacement

3.3.2 Power circuit

3.3.3 I/O list

3.3.4 Description for PLC

3.3.5 Description for board Detection Sensor

3.3.6 Description For Motor Wiring

3.3.7 Interface

3.4 Hardware Assembly & Partlist

3.4.1 Assembly

3.4.2 Hardware Assembly

3.5 Description for electric board and Part List

※ Attachment-Service request

3.1 Maintenance/ Repairing

3.1.1 Matters That Require Attention

☒ Check point before Maintenance / Repairing or any Fixing.

STOP	I . Always turn the main switch on the machine to off and secure it against unauthorized switch when performing maintenance and repair work. II . Especially with the range of moving machine parts and current and repair work.

☒ Cleaning

- Do not use fraying material such as steel wood to clean the machine.

  Always use non-fraying, oil-impregnated materials

⚠	I . Com-Pressed air for cleaning is not allowed. It will blow minuscule bite of installation into running gear, increasing wear and impeding accuracy. II . If you must use it, take the parts to be cleaned out of the machine before hand.

- Always re-oil or re-grease any parts cleaned with solvents.

☒ Apply the grease.

- Usually this period is depends on the operating condition and circumstance but normally apply the grease Min. 3 months, Max. 6 months.

⚠	I. Apply the same kind of the grease through the nipple. II. If you apply the another kinds of grease, the solidity can be increased so it can occur the any damage to the unit. ☞ Proper grease: Grease for ball bearing, No.3-2. (Refer to the below chart.)

* Reference

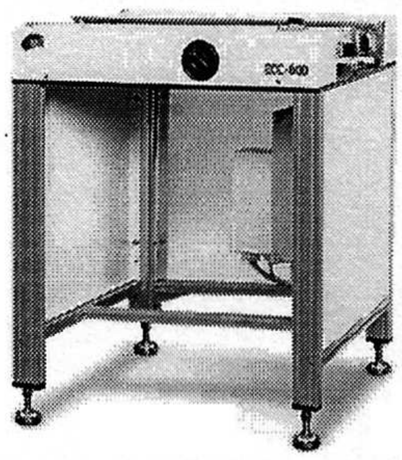
Item \ Penetration No.		No.2
Worked penetration		265 ~ 295
Dropping Point °C		Over the185
Cooper Corrosion (100°C, 24hr)		Green color or nothing happen
Evaporation loss %	99°C	Under 1.5
	130°C	Under 5.0
Oil Separation %	100°C, 24hr	Under 5
	130°C, 24hr	Under 8
Oxidation Stability (99°C, 100hr), kg/㎠ (MPa)		Under 0.5 (0.049)
Adulteration (개/㎤)	Over 10 ㎛	Under 5000
	Over 25 ㎛	Under 3000
	Over v5 ㎛	Under 500
	Over 125 ㎛	0
Work stability		Under 37
Water washout characteristics (38°C, 1hr), %		Under 10
Low temperature torque (-30°C) gf.㎝ (N.m)	Driven torque	Under 6000 (0.59)
	Rotational torque	Under 3000 (0.29)
Dampness(14day)		A Level

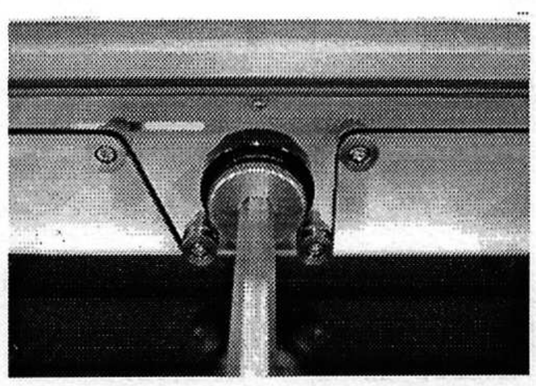
☒ Oil-Lubricated way.

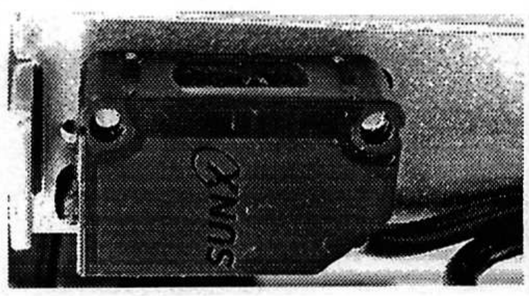
- We used the Oil less Cylinder for prevent the contamination when the oil was leaked

3.1.2 Daily

⚠	I. Operator must perform daily maintenance every time to start and finish II. If you find any trouble, immediately report it to an administrator and take a proper step.

	● Check cleaning and arrangement of machine or surrounding machine. ● Check for Pneumatic condition. ● Check for damage to mechanical and electrical machine parts. ● Check noise of machine trouble

	► EDGE BELT Check the belt' s tension and surface

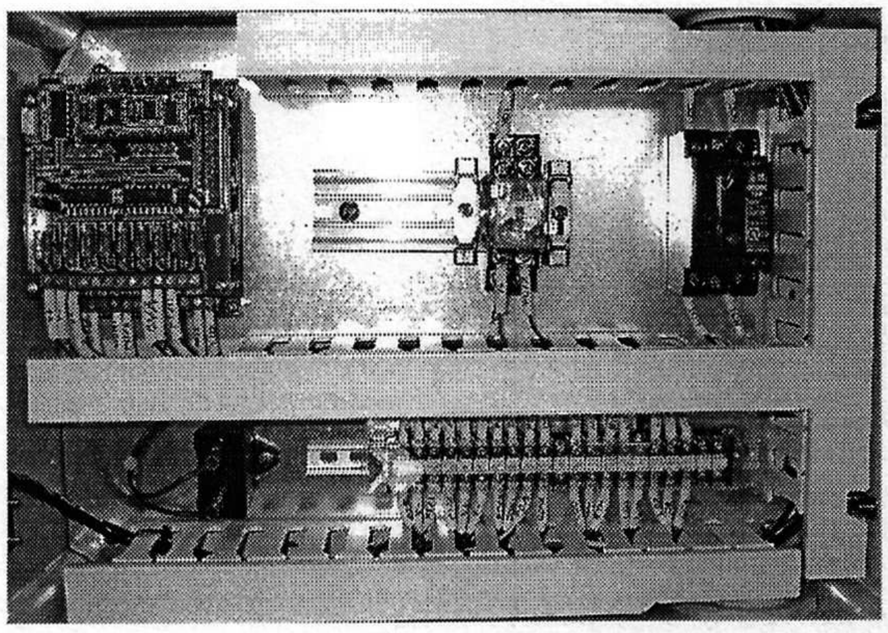
	► SENSOR Check the impurity.

3.1.3 Weekly Maintenance/Repairing

⚠	Ⅰ. The Weekly Maintenance is preceded by the daily maintenance produce. Ⅱ. Maintenance administrator better fulfill it run a chance of trouble, make a maintenance plan for measures.

3.1.4 Monthly Maintenance/Repairing

⚠	Ⅰ. The Weekly Maintenance is preceded by the daily maintenance produce. Ⅱ. Maintenance administrator better fulfill it run a chance of trouble, make a maintenance plan for measures.

Control Panel		Ⅰ. Clean inside of control Panel. * Remove trouble of cable. Ⅱ. Remove inflammable. * Oil and flammable material that could result fire or electric shock by a short circuit.

- Check the spare parts. (Refer to chapter 2.2.2).
- Check for PCB output position of conveyor (Refer to chapter 2.3).

  If it is wrong, PCB can be broken, so it must be regulated.

Purchase parts regular check List (ECC)

NO	Item		Specification	Maintenance Schedule			Check point	Management
				Daily	Weekly	Monthly		
1	CONVEYOR PART	BALL BEARING	#6001ZZ, #6804ZZ #695ZZ			⊙	Check the noise when it turning.	Supply the grease and if same problem happened again, replace the bearing to new one.
		BALL BUSH	LMK20UU			⊙	Check the noise when it operated.	Supply the grease and if same problem happened again, replace the bearing to new one.
		TIMING BELT	135L-050, 315L-050		⊙		Check the belt's sagging.	Adjust the tension and if this belt was too much sagged, replace the belt.
		BLUE BELT	1x6x1810L(L=800mm)		⊙		Check the belt's sagging.	Adjust the tension and if this belt was too much sagged, replace the belt.
		BLUE BELT	1x6x2210L(L=1000mm)		⊙		Check the belt's sagging.	Adjust the tension and if this belt was too much sagged, replace the belt.
		BLUE BELT	1x6x2610L(L=1200mm)		⊙		Check the belt's sagging.	Adjust the tension and if this belt was too much sagged, replace the belt.
		MOTOR	M7RN15GH4	⊙			Check the operating condition by manually.	Check the wiring condition. If the motor is our of order, replace the problemed motor.
		SENSOR	CX-424	⊙			Check the green light is lighted or not.	Adjust the GAIN part using the "-" shape driver. If the sensor is out of order, replace the sensor.
2	ETC.	AIR LINE	AIR LINE FOR CYLINDER	⊙			Check the air pipe's condition.	Replace the broken part.
		ELECTRICITY WIRE	MOTOR,SENSOR wire	⊙			Check the wiring condition.	Replace the disconnected part.

*** If you can't solve the problem with the information given here, contact the EUNIL Service Dept. quickly.**

3.1.5 A/S Treatment

	I. Please use the our A/S sheet when you need our service. (Refer to the Page47) II. Especially inform to us the unit' s serial number where back side of unit. ☞ The serial name plate is attached on rear cover of machine. ☜

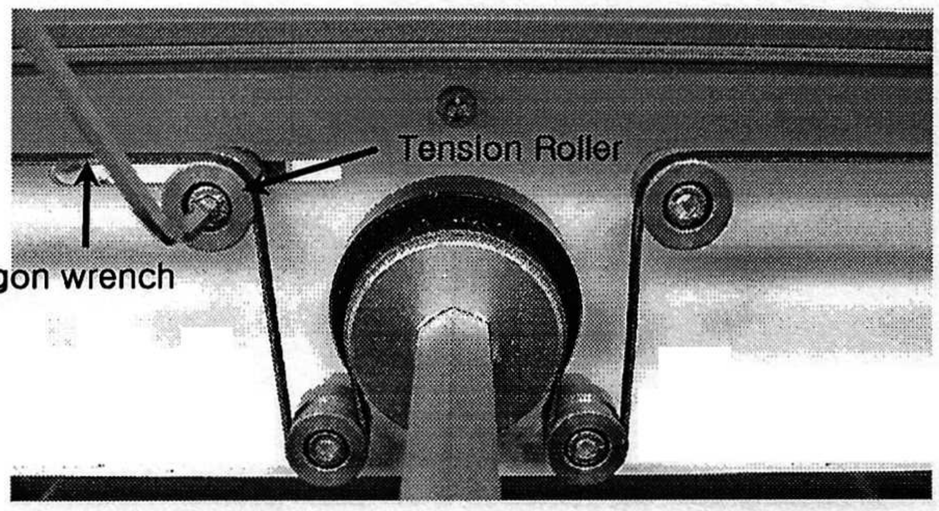
3.2 Trouble Shoot

CAUSE	REMEDY	CHECK POINT
PCB is not transferred to the ECC.	1. Check the condition of Pcb-In sensor. - If Pcb in sensor is not sensed, conveyor driving motor doesn' t run. - Check the condition of Pcb-in sensor, if sensor works, but sensor can' t sense a pcb, adjust the position & sensitivity of sensor. - Check the supply voltage of sensor. If the supply cannot meet, check the connection condition. - Although sensor is working well, this error occurs by input device of PLC is faulty.	P29~31
	1. Check the conveyor driving motor. - Check the output of PLC. - In case of normal output of power, check the relay of conveyor driving motor. The LED lighting shows relay working condition when power is supplied to coil. - In case of faulty LED, although the LED doesn' t light, the conveyor motor is possible to run. - Check a reply point of contact and supply power to connector no.1 (CW) of motor. - Check the power supply' s condition come under each number of connector, If supply can' t meet, check the wiring condition.	P32~34
	1. Check the interface request out signal.	P35~37
PCB is not stopped on the stop position.	1. Check the condition of Pcb-stop sensor. - If Pcb-stop sensor is not sensed, conveyor driving motor doesn' t stop. - Check the condition of Pcb-stop sensor, if sensor works, but sensor can' t sense a pcb, adjust the position & sensitivity of sensor. - Check the supply voltage of sensor. If the supply cannot meet, check the connection condition. - Although sensor is working well, this error occurs by input device of PLC is faulty.	P29~31

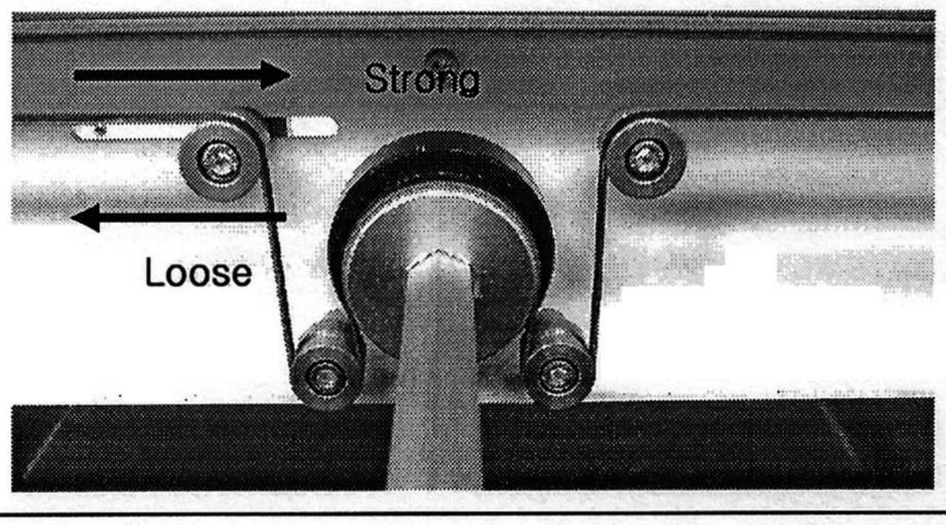
PCB is not stopped on the stop position.	2. Check the conveyor driving motor. Check the output of PLC. - In case of normal output of power, check the relay of conveyor driving motor. The LED lighting shows relay working condition when power is supplied to coil. - In case of faulty LED, although the LED doesn't light, the conveyor motor is possible to run. - Check a reply point of contact and supply power to connector no.1 (CW) of motor. - Check the power supply's condition come under each number of connector, If supply can't meet, check the wiring condition.	P32~34
PCB is not transferred to the down-line machine.	1. Check the conveyor driving motor. - Check the output of PLC. - In case of normal output of power, check the relay of conveyor driving motor. The LED lighting shows relay working condition when power is supplied to coil. - In case of faulty LED, although the LED doesn't light, the conveyor motor is possible to run. - Check a reply point of contact and supply power to connector no.1 (CW) of motor. -Check the power supply's condition come under each number of connector, If supply can't meet, check the wiring condition.	P32~34
	1. Check the interface request in signal. (INTERFACE REQUEST IN SIGNAL)	P35~37

3.3 Remedy/Require attention

3.3.1 Setting up the Edge Belt' s Tension/Replacement



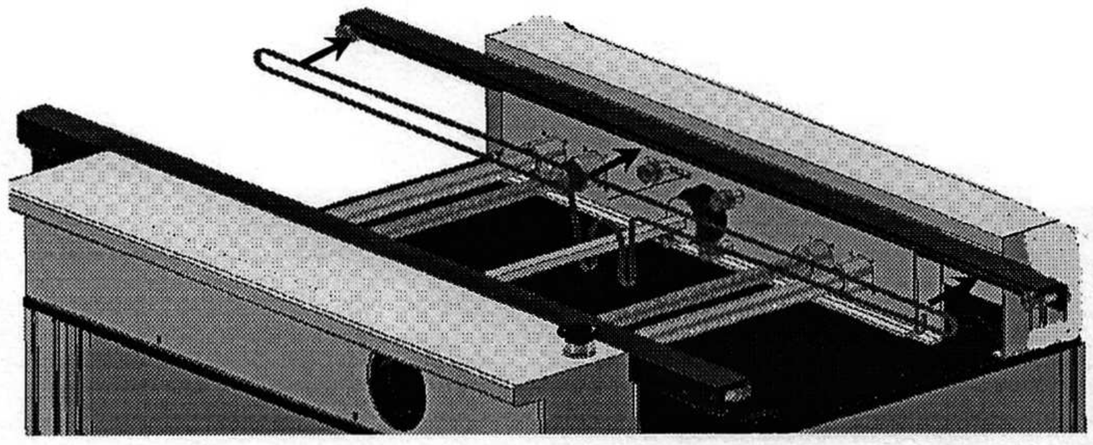
① Before adjust the edge belt' s tension, release the bolt(CCW) by hexagon wrench.



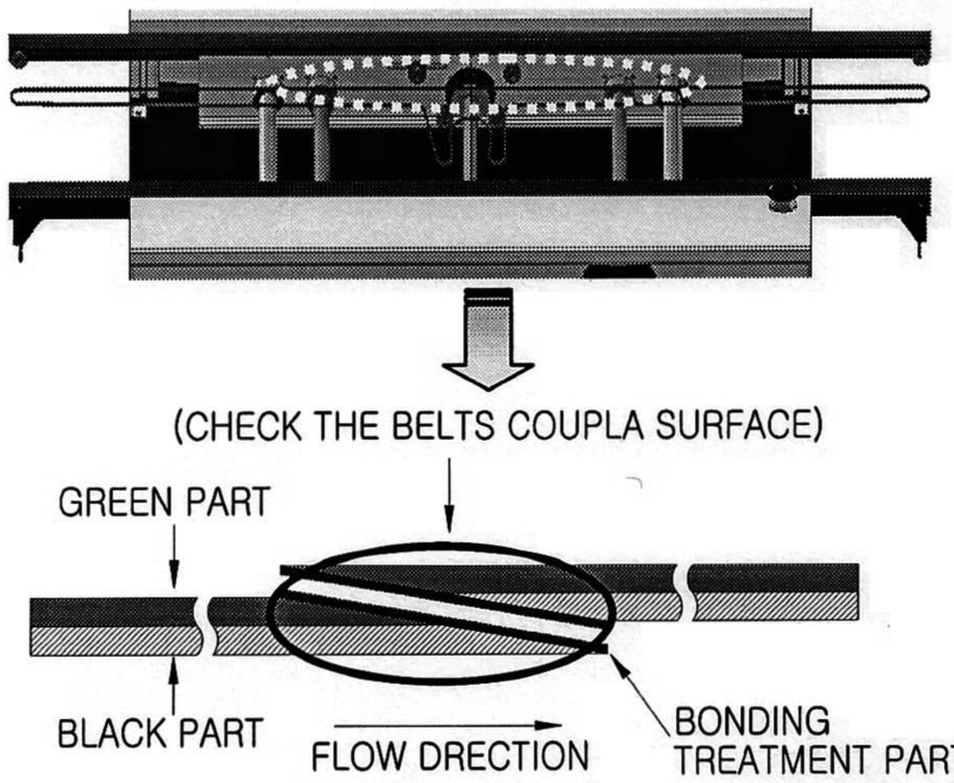
② Adjust the edge belt' s tension loosely

Ⅰ. Move the roller to driving shaft side. The tension is getting strong.

Ⅱ. Move the roller to driving shaft opposite direction. The tension is getting loose.

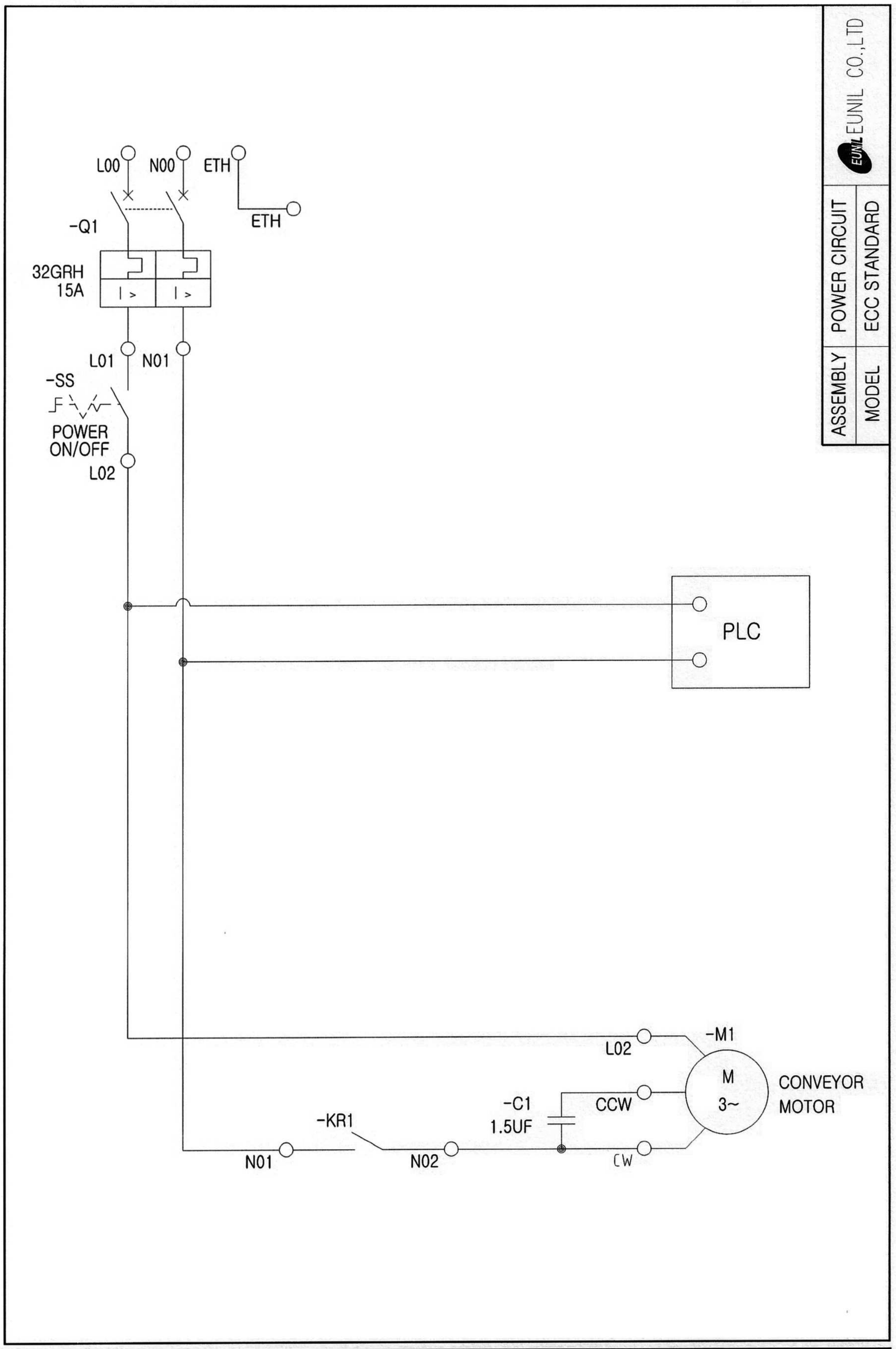


③ Pull out the edge belt. Replace the belt. Adjust the tension properly as the above.



※ When you replace the belt like as picture, check the joining surface of belt.

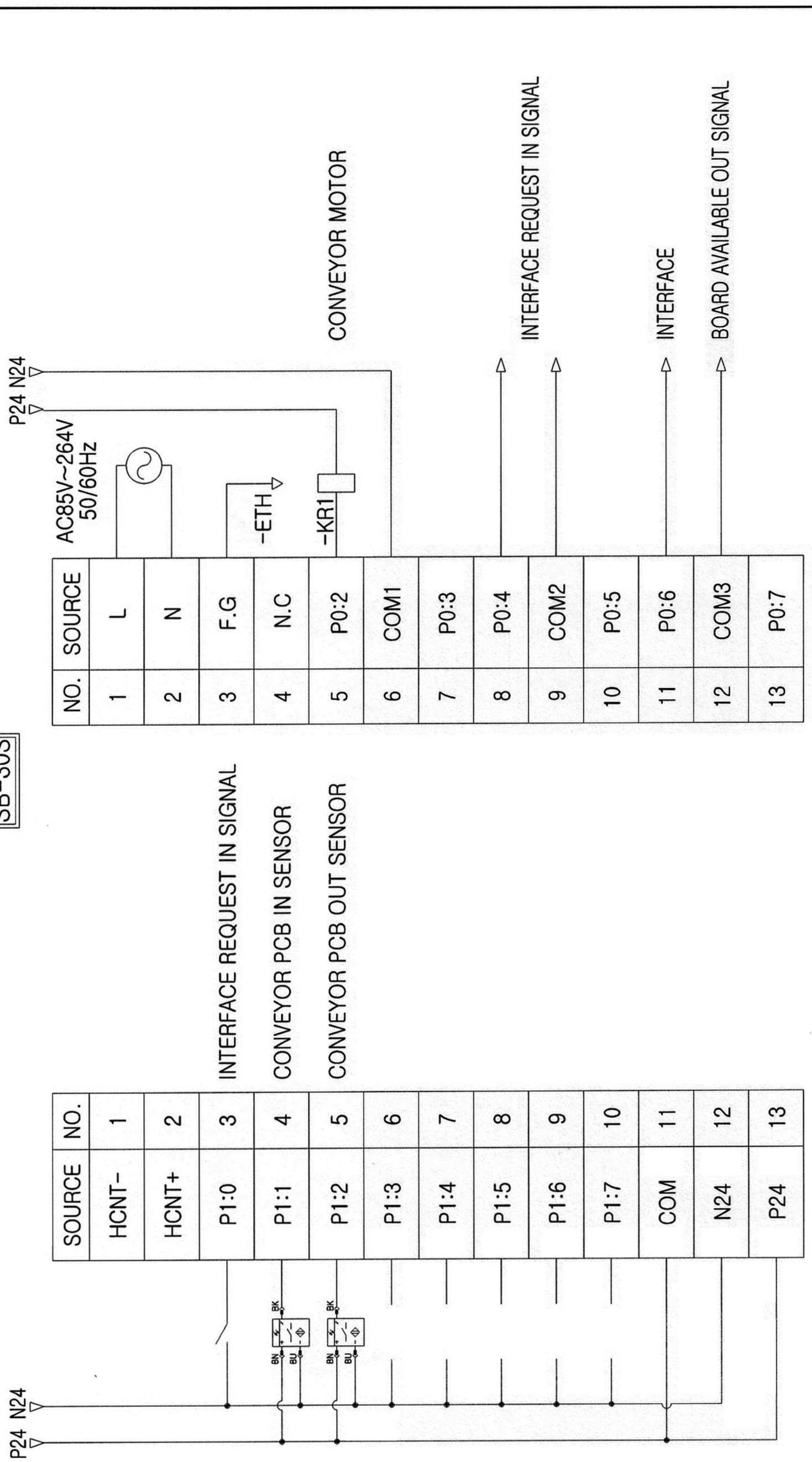
3.3.2 Power circuit



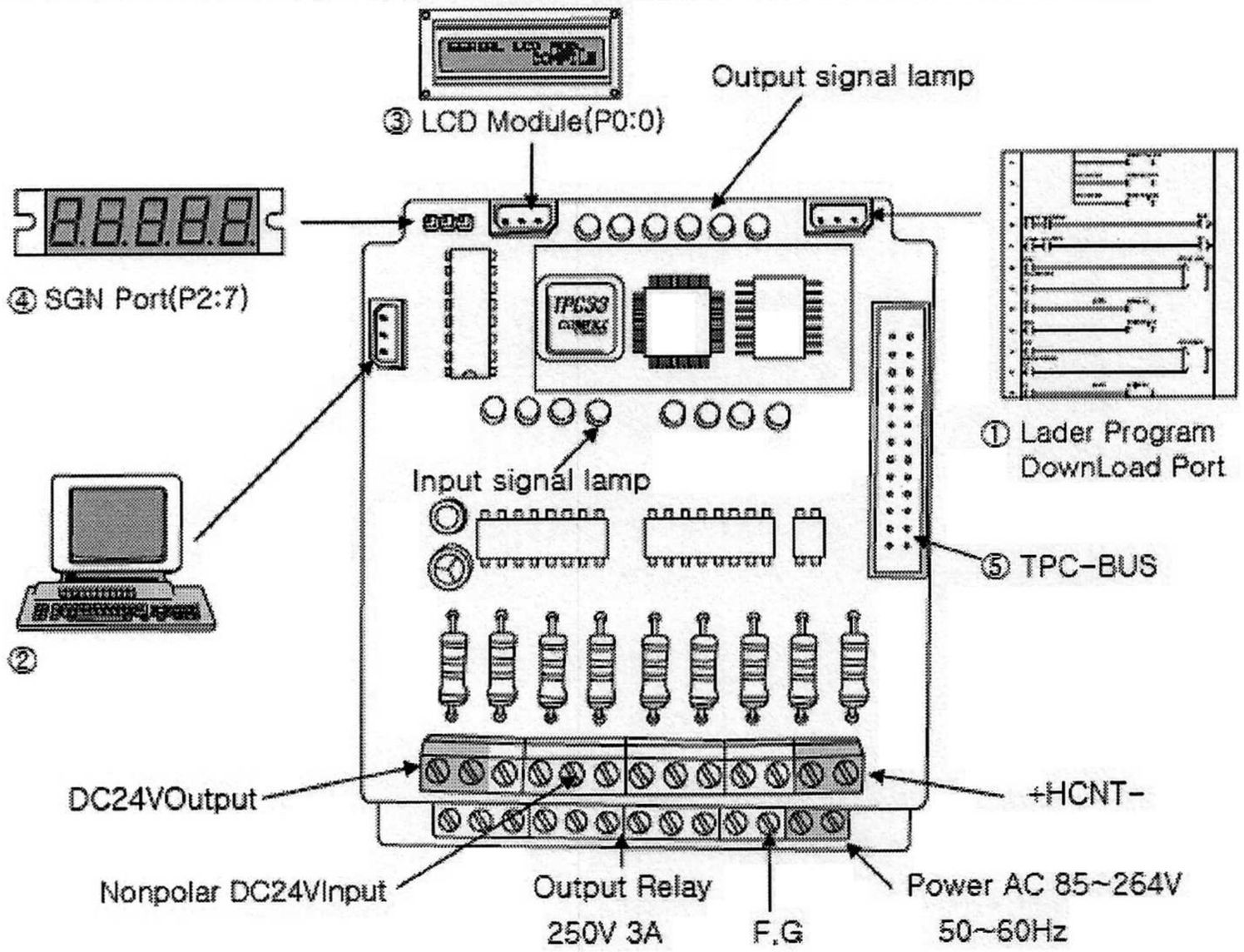
3.3.3 I/O LIST

ASSEMBLY	I/O LIST
MODEL	ECC STANDARD

EUNIL EUNIL CO.,LTD



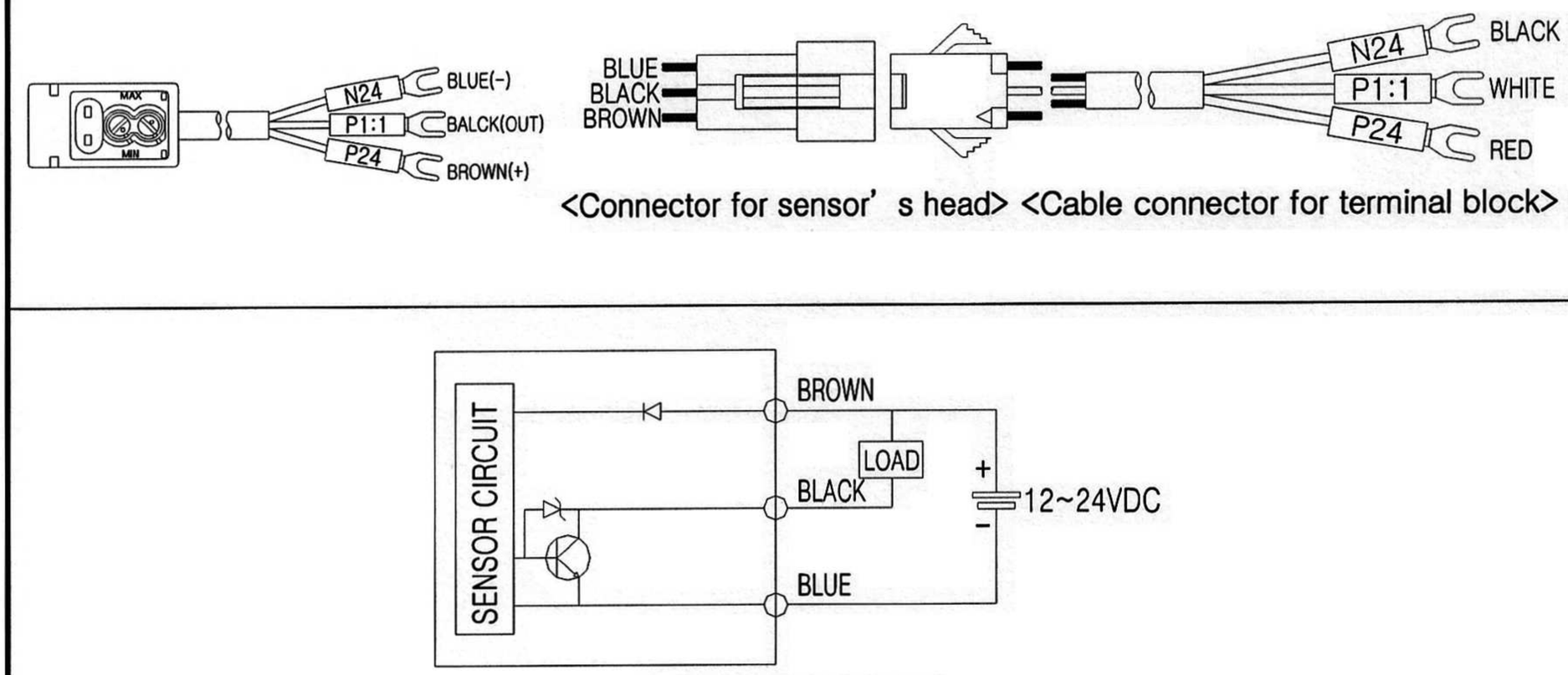
3.3.4 Description for PLC



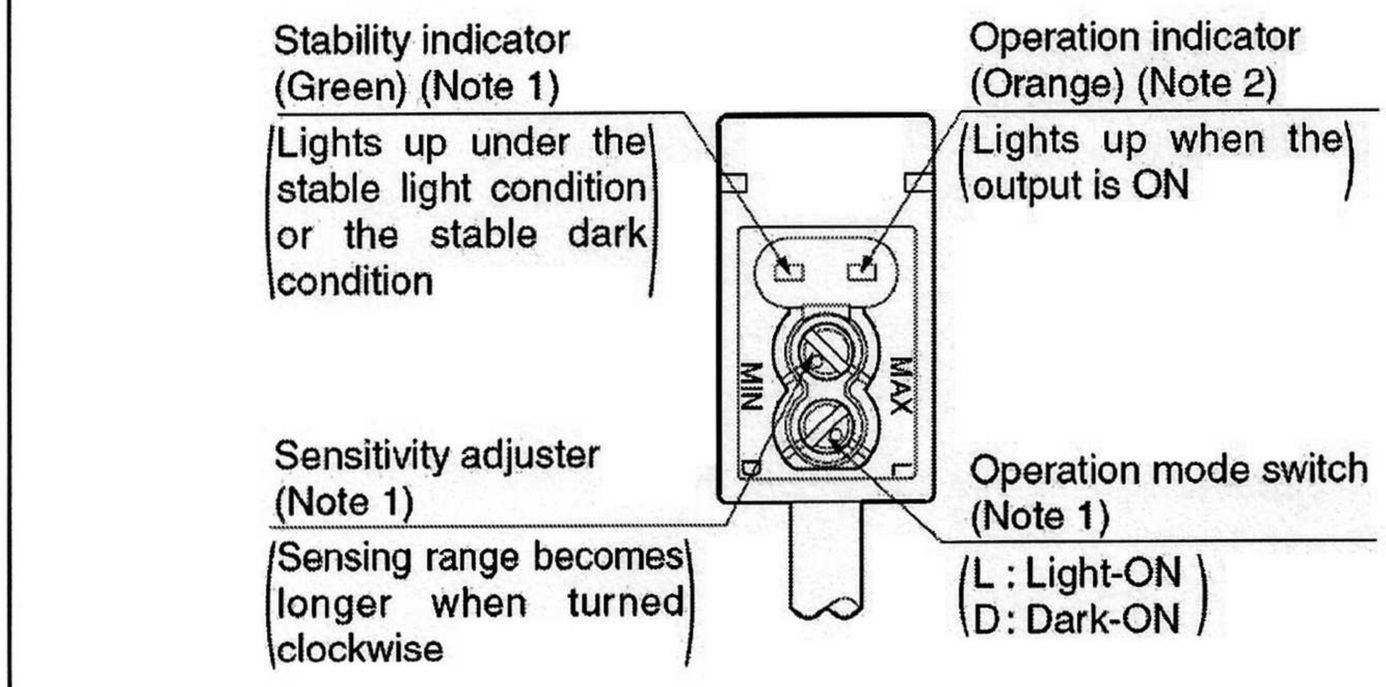
- Description of PLC -

3.3.5 Description for board Detection Sensor

1) Description for connection.



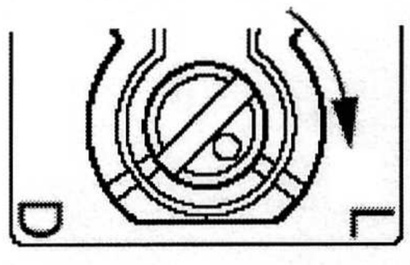
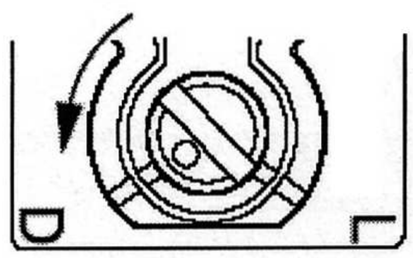
2) Name of Each part



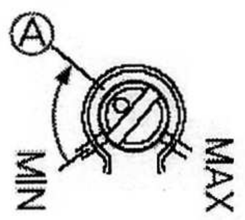
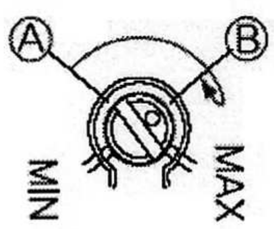
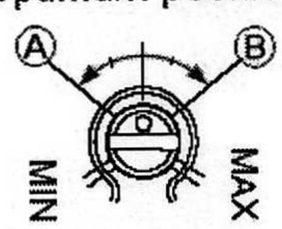
Notes 1) Note incorporated o n the thru-beam type sensor emitter.

2) It is the power indicator (Green LED) (lights up when the power is ON) for the thru-beam type sensor emitter.

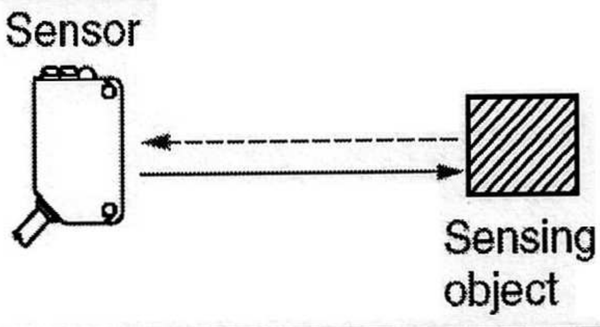
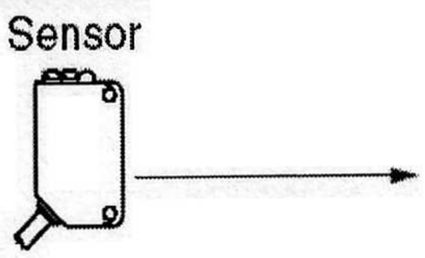
3) Operation mode switch

Operation Mode switch	Description
	Light-ON mode is obtained when the operation mode switch (located on the receiver for the thru-beam type) is turned fully clockwise (L side).
	Dark-ON mode is obtained when the operation mode switch (located on the receiver for the thru-beam type) is turned fully counterclockwise (D side).

4) Sensitivity adjustment

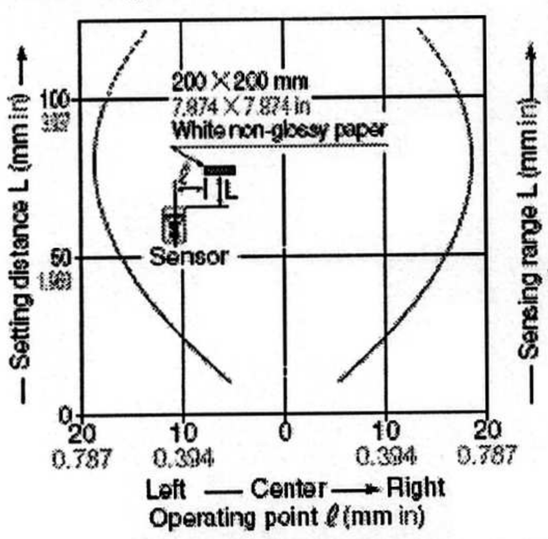
Step	Sensitivity adjuster	Description
①		Turn the sensitivity adjuster fully counter-clockwise to the minimum sensitivity position, MIN. In the light received condition, turn the sensitivity adjuster slowly clockwise and confirm the point A where the sensor enters the ' Light' state operation
②		In the dark condition, turn the sensitivity adjuster further clockwise until the sensor enters the ' Light' state operation and then bring it back to confirm point B where the sensor just returns to the ' Dark' state operation. (If the sensor does not enter the ' Light' state operation even when the sensitivity adjuster is turned fully clockwise, the position is point B.
③	Optimum position 	The position at the middle of point A and B is the optimum sensing position.

Note) Use the ' minus' adjusting screwdriver (please arrange separately) to turn the adjuster slowly. Turning with excessive strength will cause damage to the adjuster.

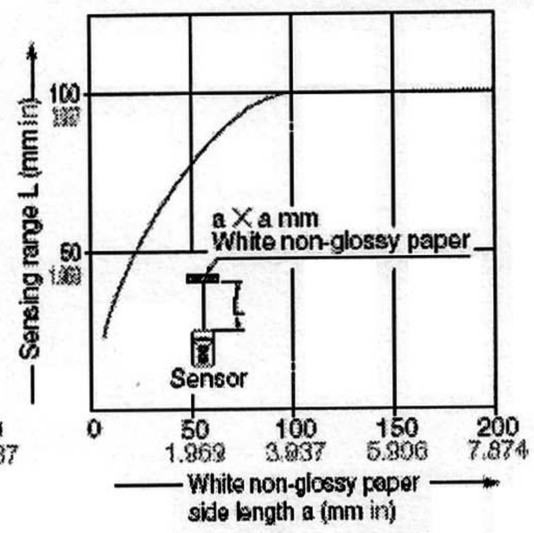
	Light received condition	Dark condition
Diffuse reflective type		

6) Detection Feature

Sensing field



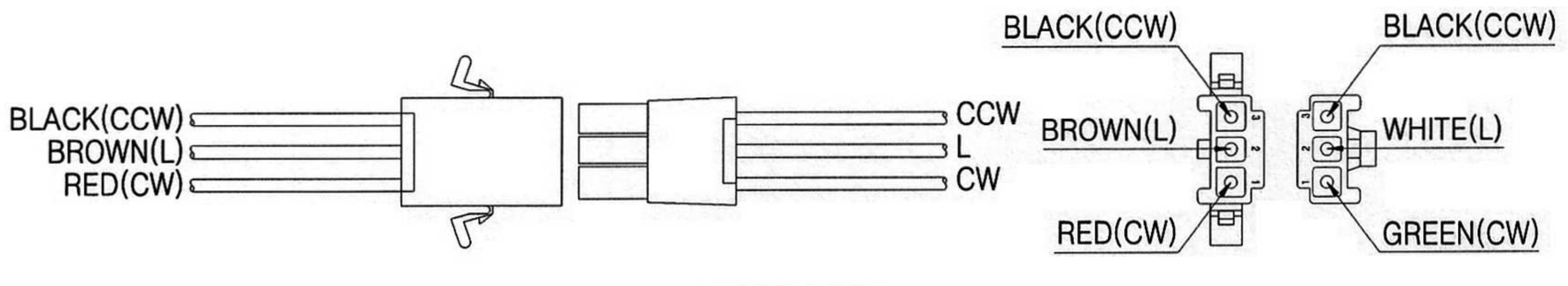
Correlation between sensing object size and sensing range



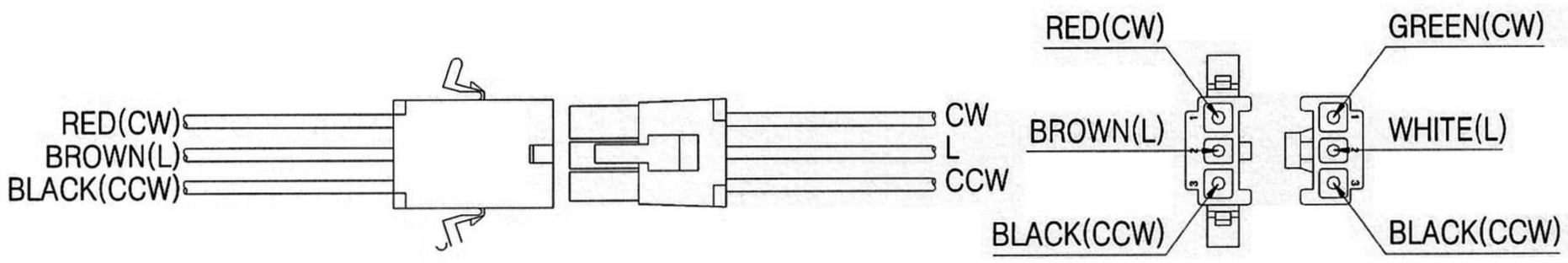
As the sensing object size becomes smaller than the standard size (white non-glossy paper 200×200 mm 7.874×7.874 in), the sensing range shortens, as shown in the left graph.

(For plotting the left graph, the sensitivity has been set such that a 200×200 mm 7.874×7.874 in white non-glossy paper is just detectable at a distance of 100 mm 3.937 in.)

3.3.6 Description for motor wiring



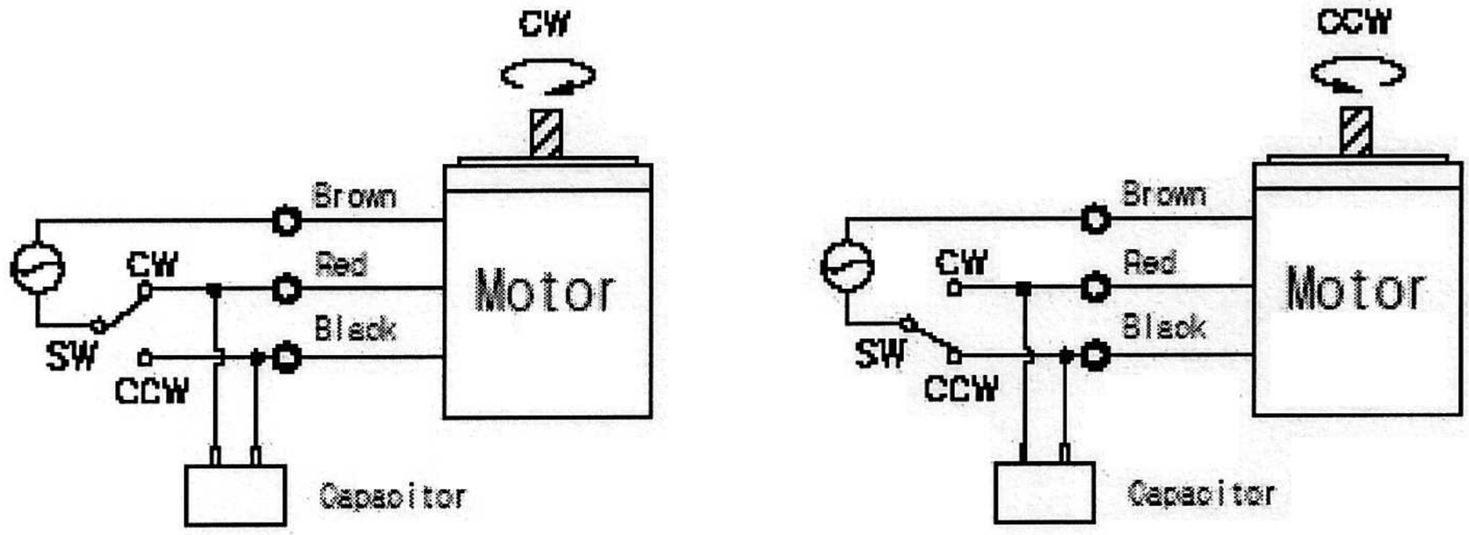
- Top side-



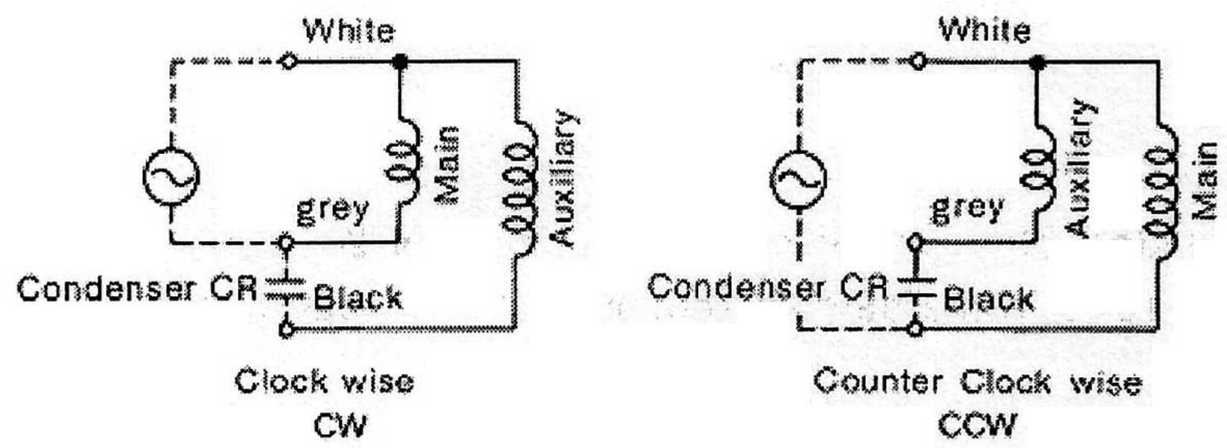
-Bottom side-

Description for Motor connector wiring.

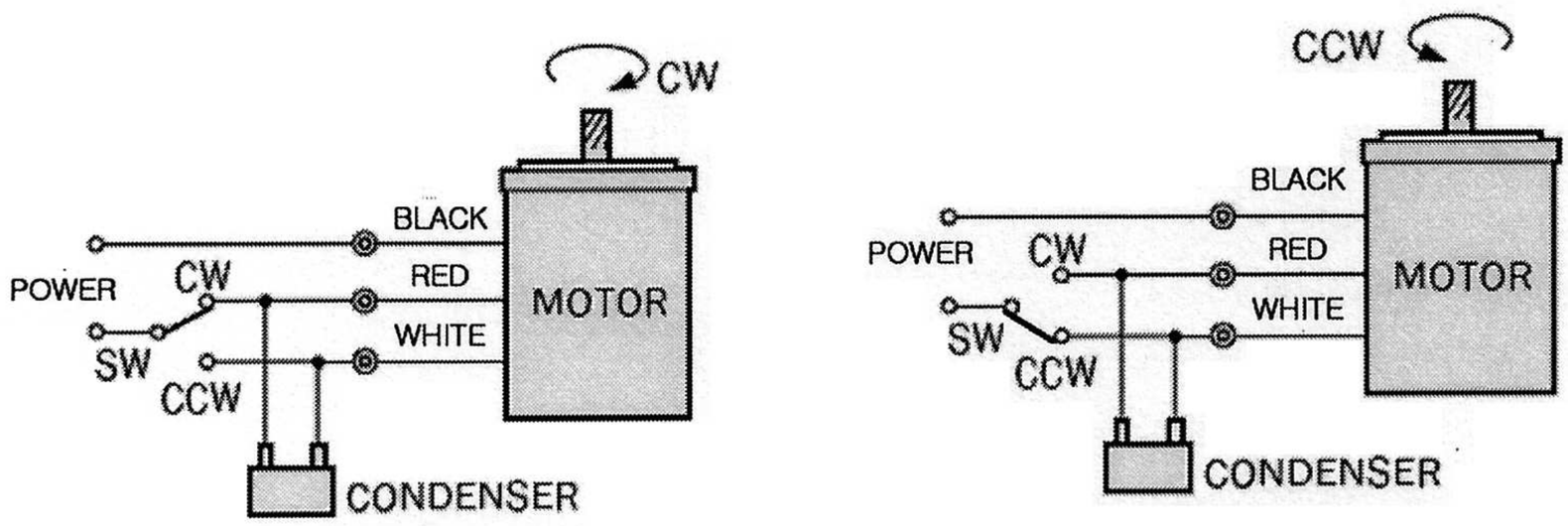
* Attachment: motor connection
  - SPEED FIXED MOTOR



MOTOR-NET Reversible motor

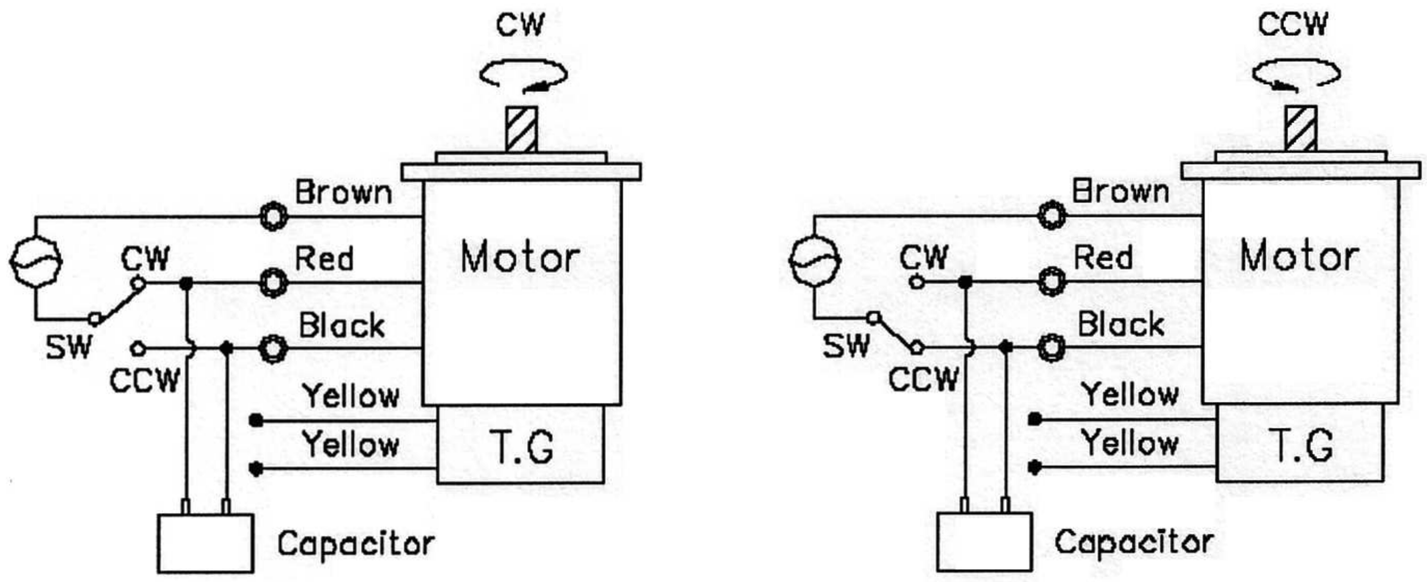


PANASONIC Reversible motor



ORIENTAL Reversible motor

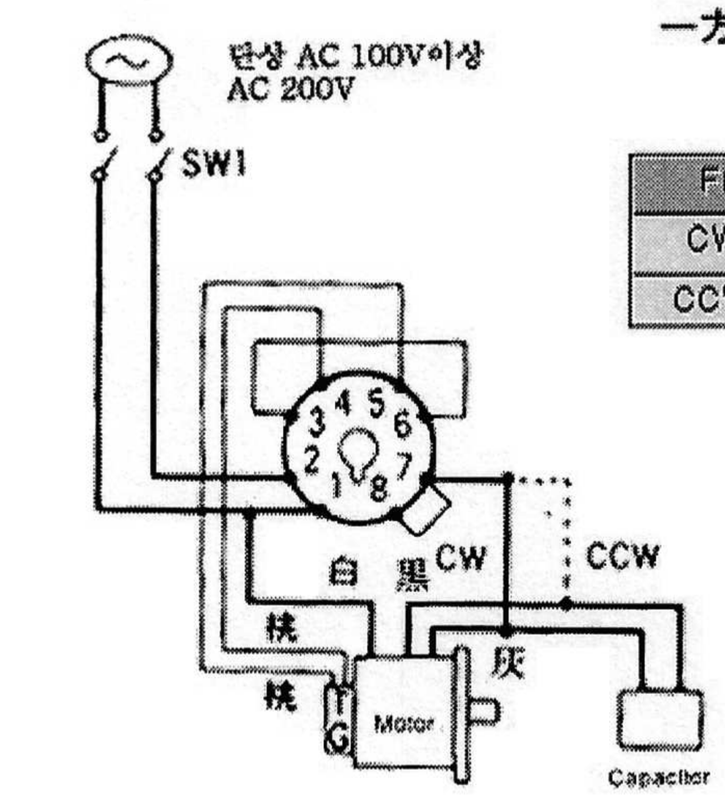
- SPEED MOTOR & CONTROL PACK



MOTOR-NET Reversible Speed motor

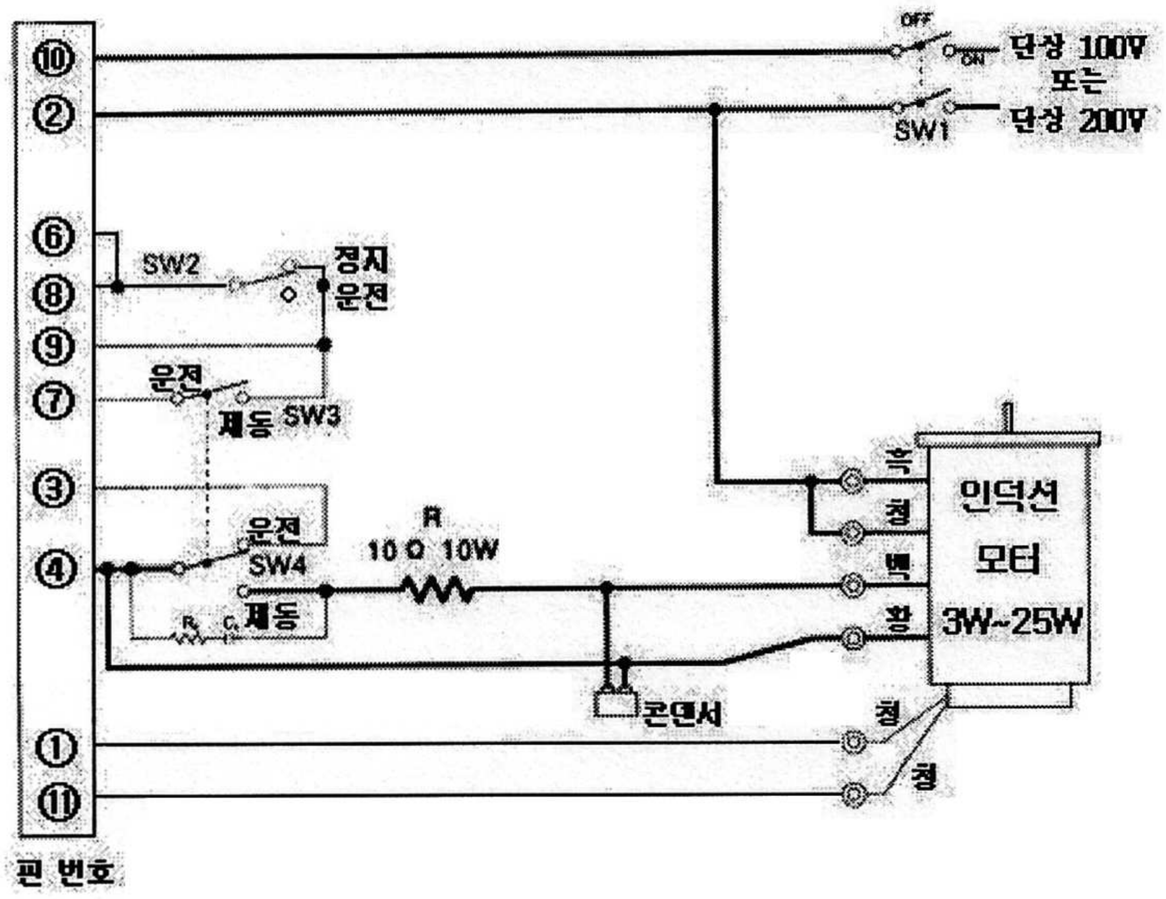
■ Single Direction + Variable Speed (3~90W)

一方向運転＋変速〈3~90W〉



From shaft side view	
CW	Clock wise
CCW	Counter clock wise

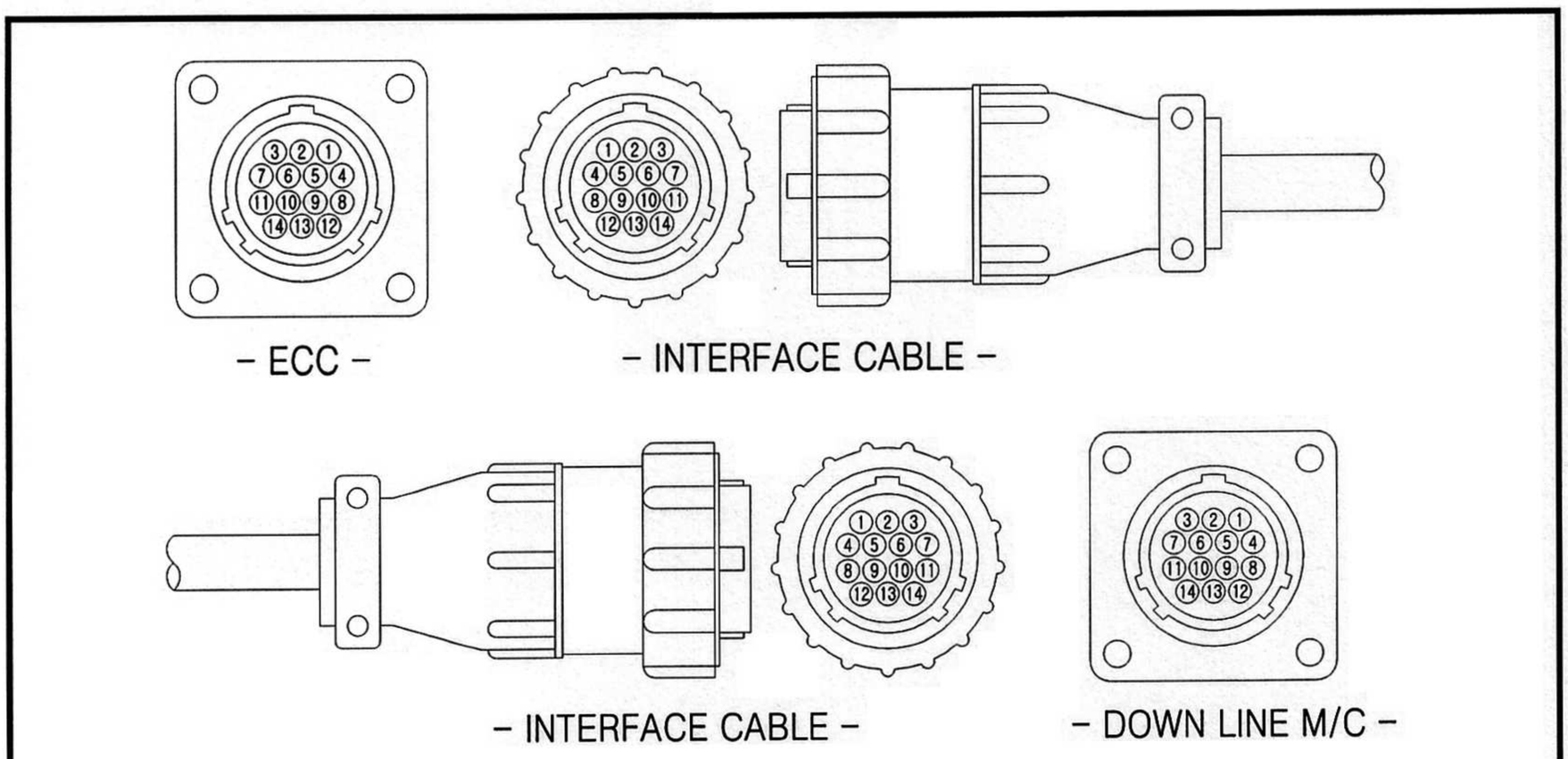
PANASONIC Reversible Speed motor



ORIENTAL Reversible Speed motor

3.3.7 Interface

3.3.7.1 Interface connector



ECC M/C needs the request signal between up line M/C and down line M/C.

1) Up-Line Interface LAY-OUT

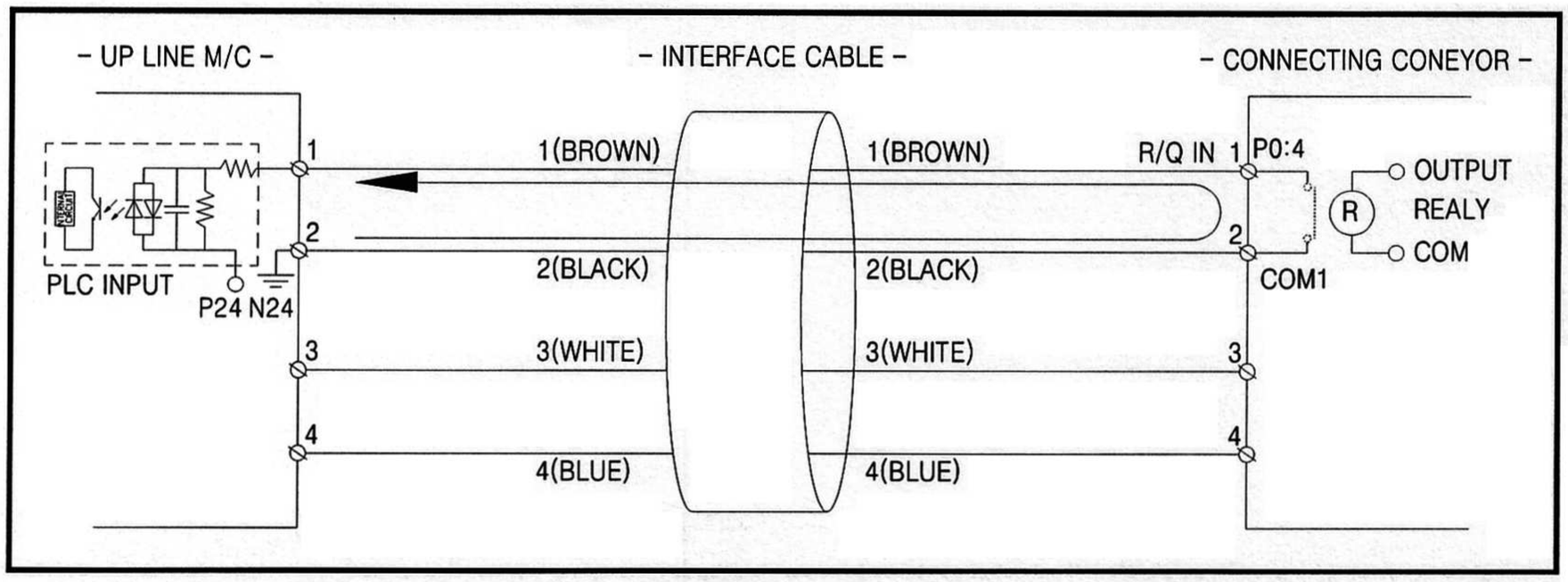
PIN NO	WIRE COLOR	DESCRIPTION	I/O NO
1	Brown	Transfer request output signal	P0:4
2	Black	Transfer request output signal common	COM1

2) Down-Line Interface LAY-OUT

PIN NO	WIRE COLOR	DESCRIPTION	I/O NO
1	Brown	Transfer request input signal	P1:0
2	Black	Transfer request input signal common	N24
3	White	Board available output signal	P0:6
4	Blue	Board available output signal common	COM2

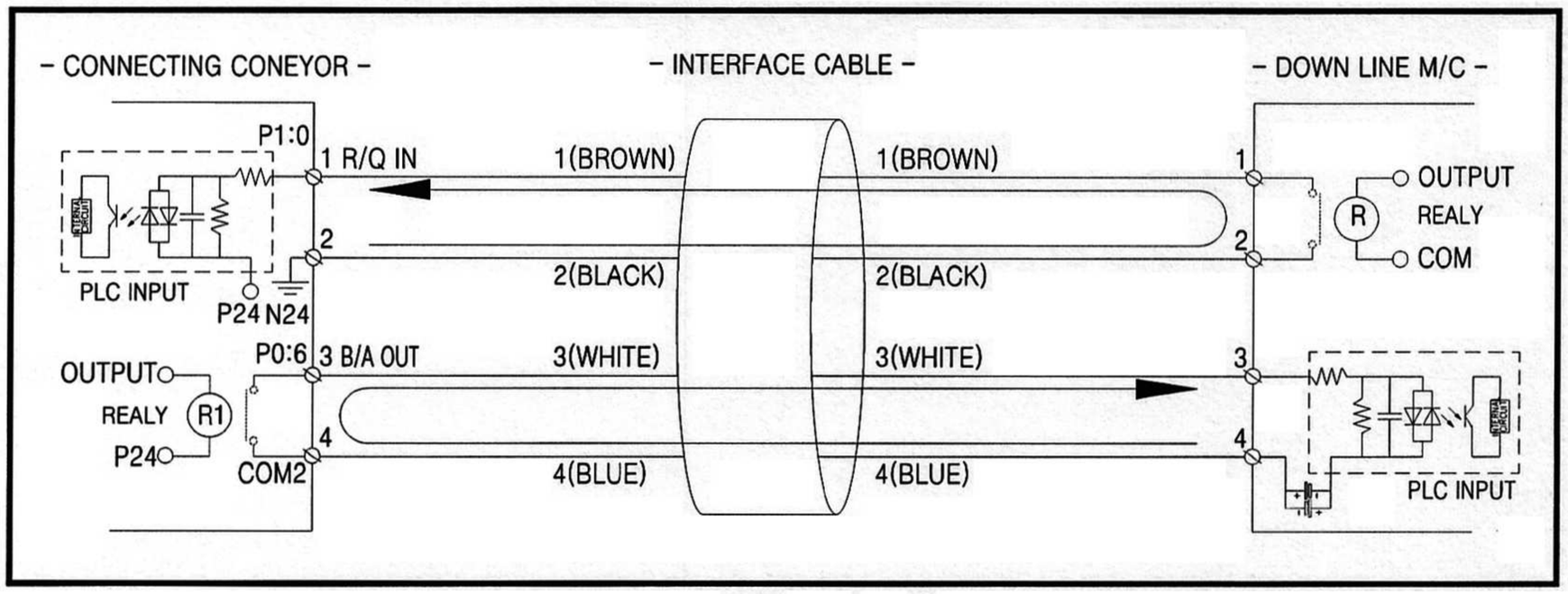
3.3.7.2 Circuit diagram and signal of interface

1) Interface Circuit diagram for Up-Line

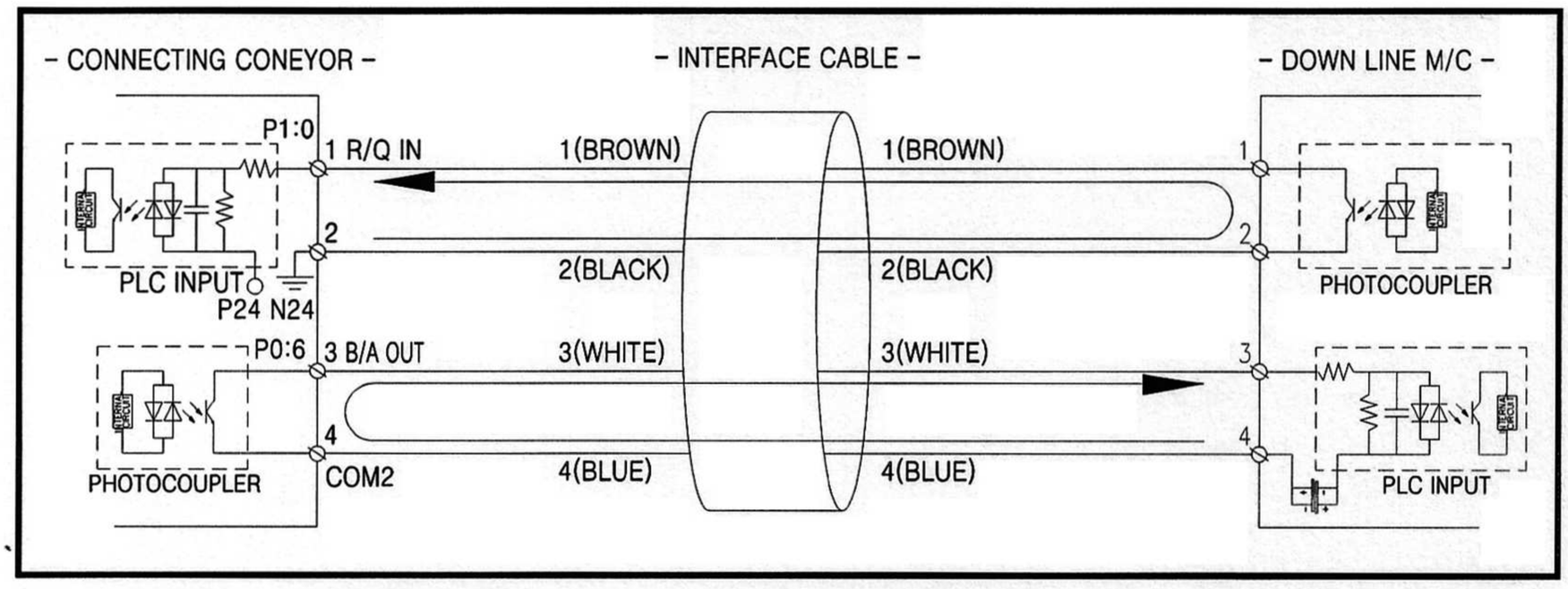


<For relay >

2) Interface Circuit diagram for Down-Line



<For relay >



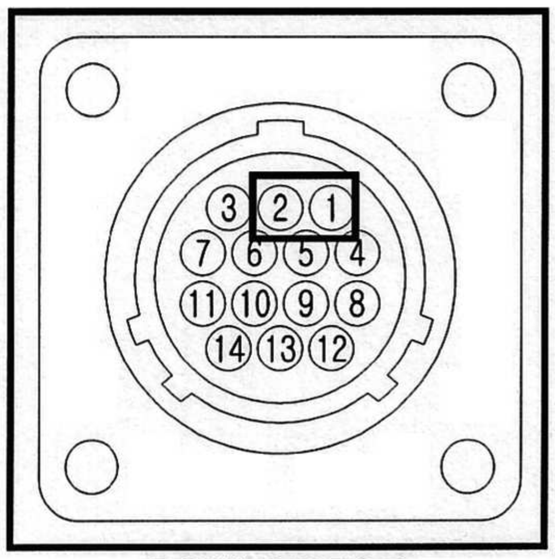
<For photo coupler >

※ How to test interface

1) REQUEST IN Signal Test

On Power on condition, connect connector No1.to connector N0.2

When LED NO.0 of PLC is light on, this is normal. If the light is not on. Check the wiring.



CONNECTOR

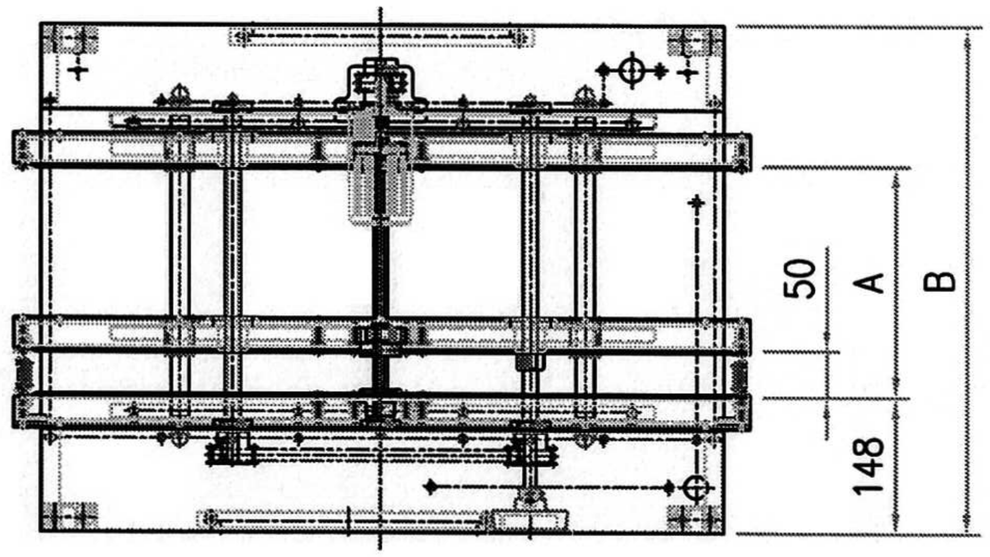
2) REQUEST OUT Signal, B/A OUT Signal Test

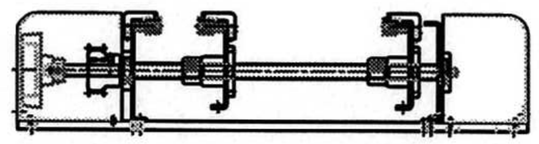
① After discharge the board artificially, check the P0:4 of PLC output, it will be able to ON/OFF. (R/Q OUT)

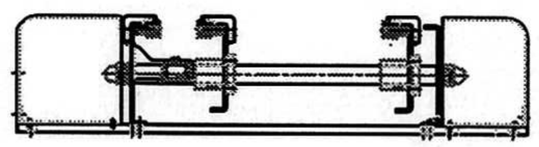
② For test the B/A OUT, after stop the board on output position artificially, check the P0:6 of PLC output, it will be able to ON/OFF.

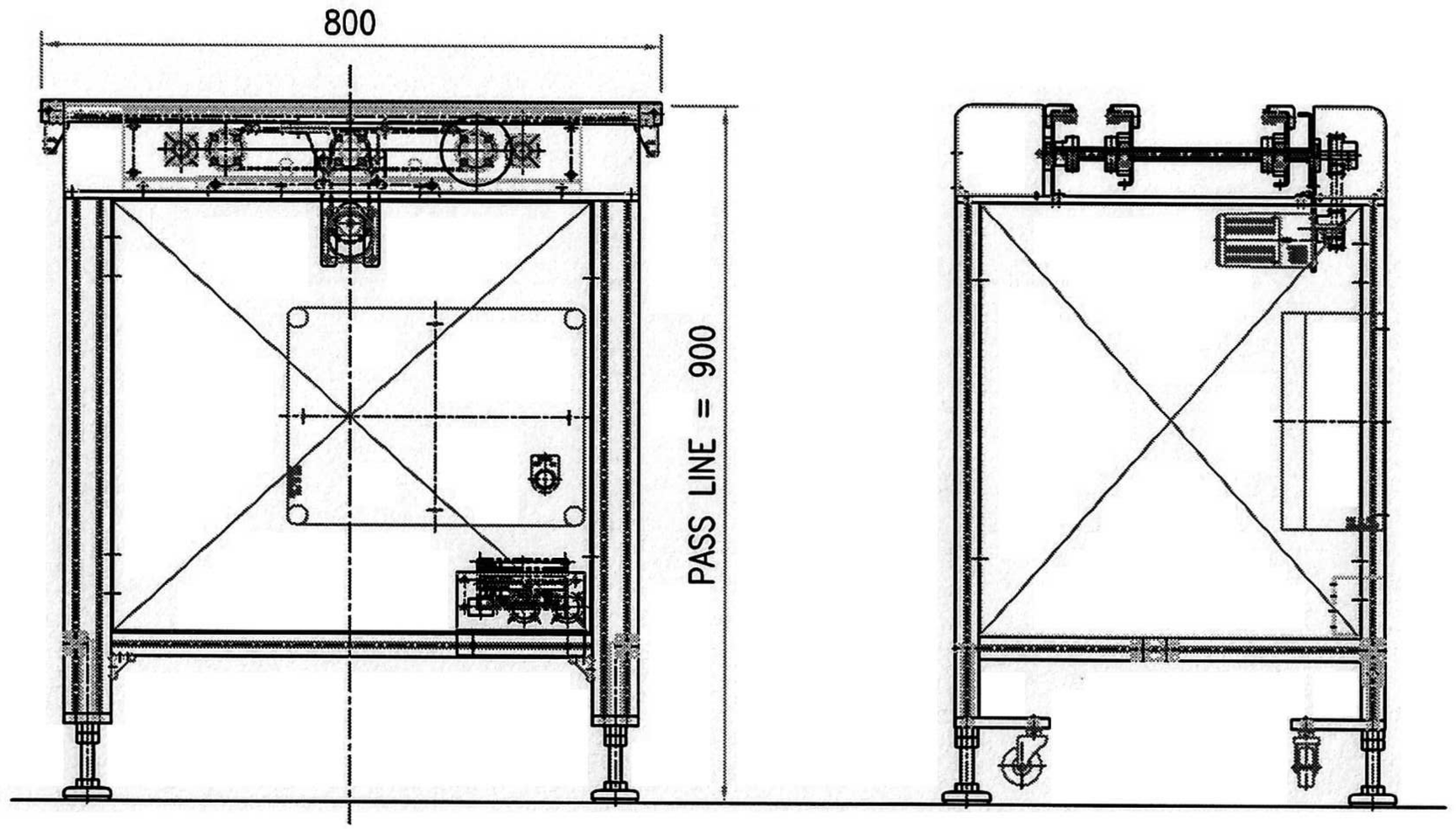
3.4 Hardware Assembly & Part list

3.4.1 Assembly









ECC-600 (CONNECTING CONVEYOR)

No	SPECIFICATION		DESCRIPTION
1	FLOW DIRECTION		LEFT TO RIGHT
2	FIXED SIDE		FRONT FIXED
3	PCB SIZE	MAX.	SL-330x250
	(LxW)	MIN.	50x50
4	COMPONENT CLEARANCE	TOP	+50 mm
		BOTTOM	-30 mm
5	EDGE CLEARANCE		3.0 mm
6	PASS LINE		900±30
7	CONSUMING POWER		60 W
8	POWER SUPPLY		AC220V[±5%], 50-60Hz, 1 PHASE
9	WIDTH ADJUSTMENT		HANDLE
10	BELT TYPE		BLUE BELT (ANTISTATIC)
11	CONVEYOR SPEED		188.496 mm/sec (1600/20x45x3.14/60)
12	CONTROL TYPE		PLC TYPE
13			
14			
15			

	A	B	C
SL	250	550	583
YL	350	650	683
LL	460	760	793

MACHINE	(±)	0.05	0.10	0.15	0.20	0.30	0.50	0.80
TOLERANCE		3~6	~30	~120	~315	~1M	~2M	~4M
SURFACE	▽▽▽▽		▽▽▽		▽▽		▽	
ROUGHNESS	0.8μ		6.3μ		12.5μ		50μ	

DATE	REVISIONS

SCALE	DATE	PRO-JECTION	
1 / 15	2004.07.26		
REVISED	DRAWN	CHECKED	APPROVED
	어 명 선	-	-

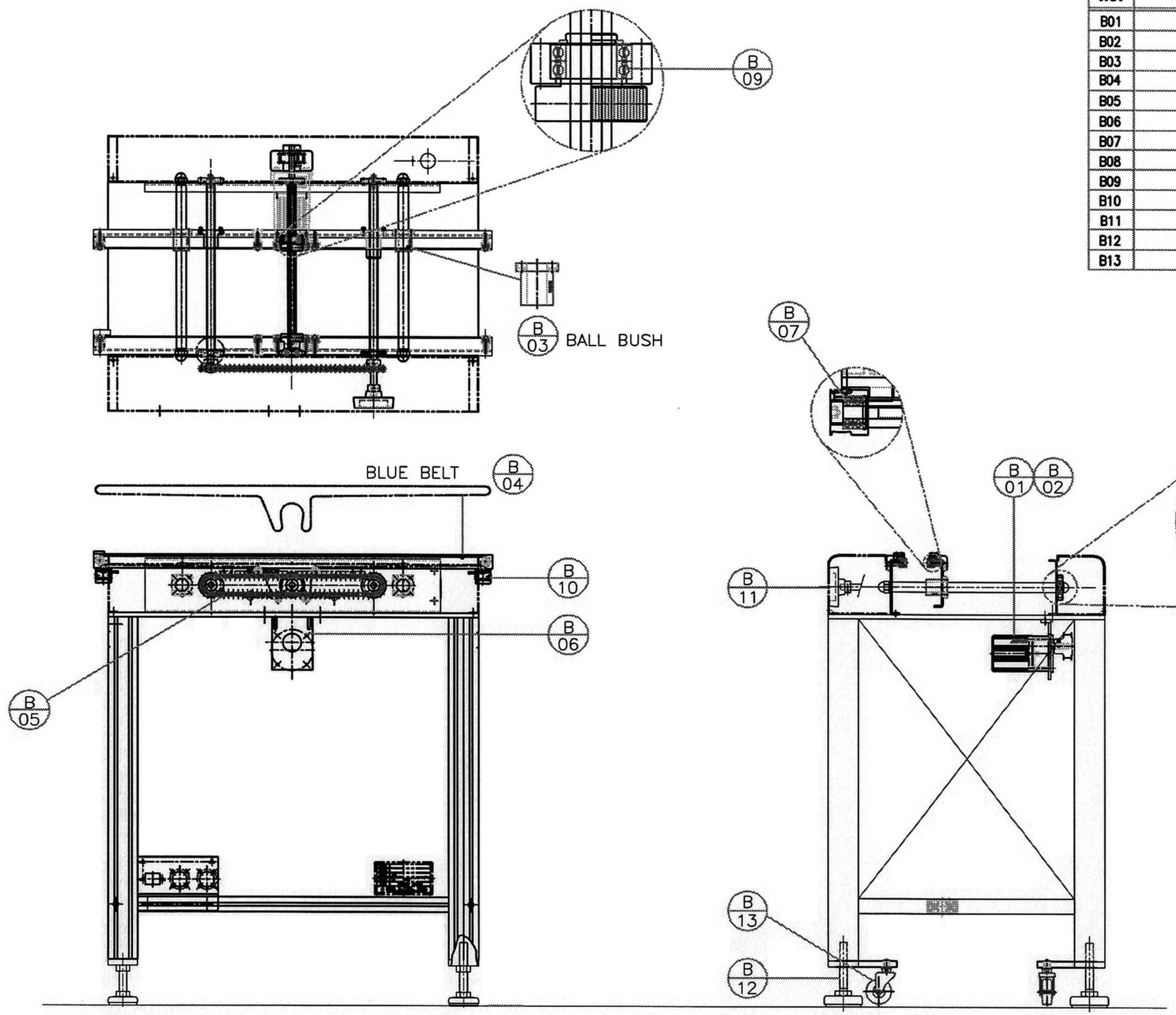
NO.	DESCRIPTION	Q'TY	MATERIAL	REMARKS
L-001	-	-	-	-
CUSTOMER	EUNIL STANDARD			
ASSEMBLY	CONNECTING CONVEYOR			
MODEL	ECC-600S-A			

EUNIL EUNIL CO., LTD.

A4 (297x210)

3.4.2 Hardware Assembly

NO.	DESCRIPTION	Q'TY	SPECIFICATION	REMARKS
B01	MOTOR	1	M7RA15G4L	PANASONIC
B02	GEAR HEAD	1	M7GA20M	PANASONIC
B03	BALL BUSH	2	LMK20UU	SAMICK
B04	BLUE BELT (RAIL=800mm)	2	1x6x1800	NAMIL
B05	STEEL CHAIN	1	#35	STANDARD
B06	TIMING BELT	1	150L-050	MITSUBOSHI
B07	BALL BEARING	24	#695ZZ	KBC
B08	BALL BEARING	6	#6001ZZ	KBC
B09	BALL BEARING	2	#6804ZZ	KBC
B10	SENSOR	2	CX-424	SUNX
B11	HANDLE	1	ø80	MENICS
B12	LEVEL FOOT	4	M16	STANDARD
B13	CASTER	4	1/2"	STANDARD



MACHINE TOLERANCE	(±)	0.05	0.10	0.15	0.20	0.30	0.50	0.80
		3~6	~30	~120	~315	~1M	~2M	~4M
SURFACE ROUGHNESS		▽▽▽▽		▽▽▽		▽▽		▽
		0.8μ		6.3μ		12.5μ		50μ

DATE	REVISIONS

SCALE	DATE	PRO-JECTION	
1 / 13	2004.11.08		
REVISED	DRAWN	CHECKED	APPROVED

–	PURCHASE LIST	–	–	–
NO.	DESCRIPTION	Q'TY	MATERIAL	REMARKS
CUSTOMER	EUNIL STANDARD			
ASSEMBLY	CONNECTING CONVEYOR		EUNIL CO., LTD.	
MODEL	ECC-600			

A4 (297x210)

EUNIL

EUNIL Co., Ltd.

PURCHASE LIST

* MODEL NAME : ECC-600 * CUSTOMER : EUNIL STANDARD 작성 : 어명선

No.	Dwg No.	Description	Specification	Material (Maker)	After Treatement	Q'TY	Price (가공비)	Price (후처리)	Amount	REMARK
1	CONVEYOR	BEARING	6001ZZ	KBC		6			-	
2		BEARING	6804ZZ	KBC		2			-	
3		BEARING	695ZZ	KBC		24			-	
4		BALL BUSH	LMK20UU	SAMICK		2			-	
5		TIMING BELT	135L-050	MITSUBOSHI		1			-	
6		TIMING BELT	315L-050	MITSUBOSHI		1			-	
7		BLUE BELT	1x6x1410L	NAMIL		3			-	L=600
8		BLUE BELT	1x6x1810L	NAMIL		3			-	L=800
9		BLUE BELT	1x6x2210L	NAMIL		3			-	L=1000
10		BLUE BELT	1x6x2610L	NAMIL		3			-	L=1200
11		BLUE BELT	1x6x2985L	NAMIL		3			-	L=1388
12		"C" TYPE SNAP RING	S-#20	STANDARD		1			-	
13		MOTOR	M7RN15GH4	MOTOR-NET		1			-	
14		GEAR HEAD	M7G20C	MOTOR-NET		1			-	
15		CONDENSER	1.5㎌	MOTOR-NET		1			-	
16		MOTOR	M7RA15G4Y	PANASONIC		1			-	
17		GEAR HEAD	M7GA20M	PANASONIC		1			-	
18		CONDENSER	1.5㎌	PANASONIC		1			-	
19		MOTOR	3RK15GN-CW	ORIENTAL		1			-	
20		GEAR HEAD	3GN18K	ORIENTAL		1			-	

EUNIL

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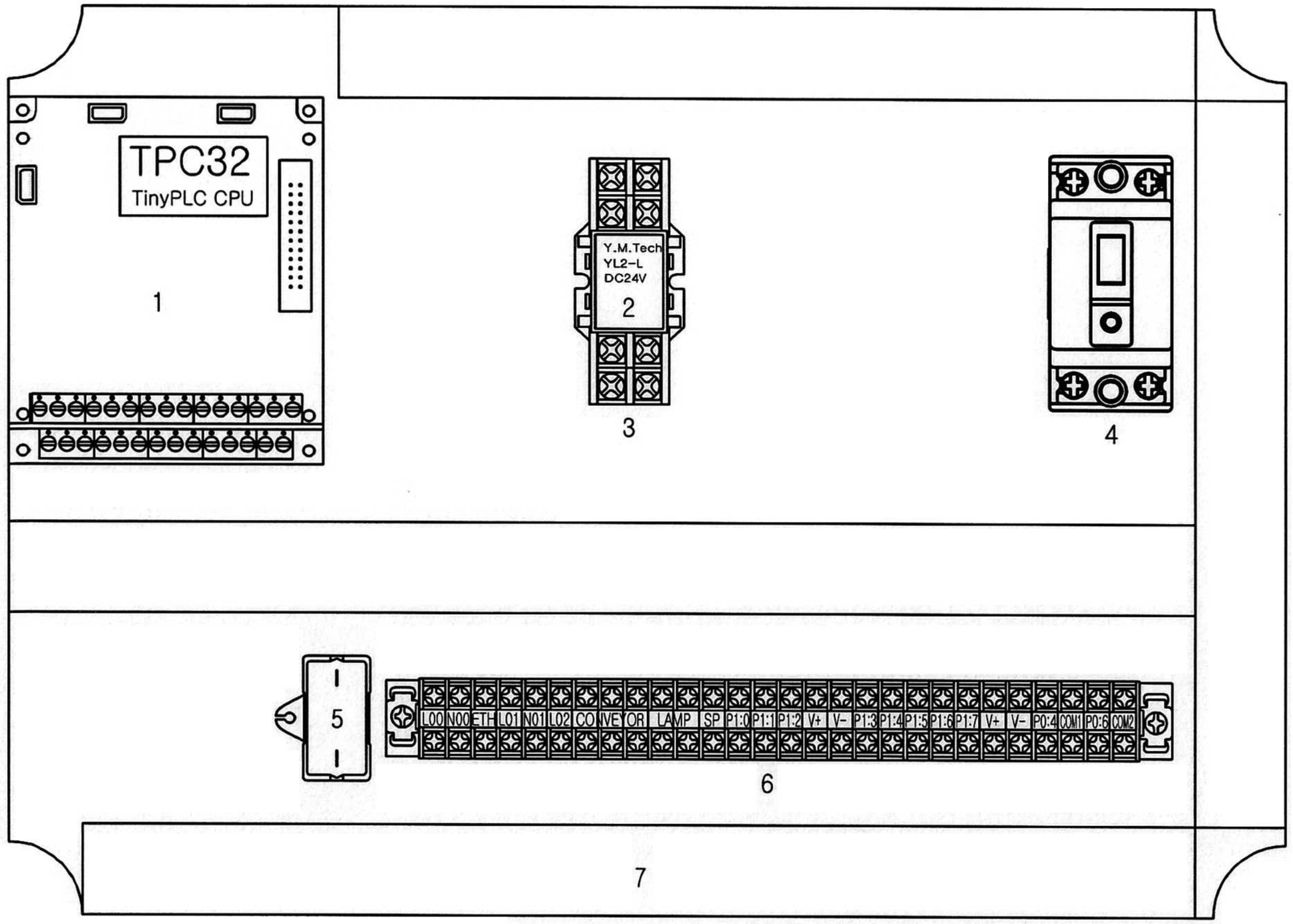
PURCHASE LIST

* MODEL NAME : ECC-600 * CUSTOMER : EUNIL STANDARD 작성 : 어명선

No.	Dwg No.	Description	Specification	Material (Maker)	After Treatement	Q'TY	Price (가공비)	Price (후처리)	Amount	REMARK
21		CONDENSER	1.5㎌	ORIENTAL		1			-	
22		SENSOR	CX-424	SUNX		2				
23		HANDLE	Ø80	MENICS		1			-	
24										
25										
26										
27	BODY	LEVELLING FOOT	M16	STANDARD		4			-	
28		CASTER	1/2"	STANDARD		4			-	
29		DIECASTING BRACKET	NDB060901	NAMSUN		2			-	
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										

3.5 Description for electric board and Part List



NO.	DESCRIPTION	MODEL(MODEL NO.)	MAKER	Q'TY
7	DUCT	25mm X 55mm X 1500mm	-	1
6	TEMINAL BLOCK1	DSTB-10S	DONG SEO	26
5	CAPACITOR1(C1)	CONVEYOR MOTOR	450VAC 1.5uF	1
4	CURCUIT BREAKER	32GRh/15A	LS	1
3	RELAY SOCKET	DS-LY2	DONG SEO	1
2	RELAY1(KR1)	YL2-L/24VDC	NAIS	1
1	PLC	SB-30S	COMFILE TECHNOLOGY	1

0	0.0	0.00	0.000	DATE	REVISIONS
±0.2	±0.1	±0.02	±0.005	--	--
⊥	—	//	○	--	--
±0.1	±0.2	±0.05	±0.05	--	--

SCALE	DATE	PRO-JECTION	
N / S	06.02.03		
REVISED	DRAWN	CHECKED	APPROVED
	K. D. H		

CUSTOMER	EUNIL STANDARD
ASSEMBLY	PANEL
MODEL	ECC-600

EUNIL CO., LTD.

A4 (297x210)

-Attachment: Service Request

To : Service Manager of EUNIL

From : _____ Date :

Service Request / Sevice Receipt

Ref No :

Distributor		M/C Model	
End-User		M/C Serial #	
Contact Engineer		Install Mon/Yr	
Invoice No		Purchase Mon/Yr	

Details of Nonconformance / Additional Service

Service Report

□ Warranty □ 고객요청 (□ 유상 □ 무상) □ 고객불만

조치내용

□ 부품교환 :

□ 출장 :

□ Program 수정 :

□ 기타 :

작성	검토	승인

최종완료일:

EI-품질-004-A-01 (주)은일 A4(210mmX297mm)

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June 24, 2008 Ver.1.2

Design Dept. Manual Team